CONCRETE

OUR 52ND YEAR

Serving the Concrete Industries

MARCH 1956

you get these things with POZZOLITH

. . . constantly improved since 1932 to provide optimum performance . . . lowest costs

OVER 75 FIELD MEN these full-time MASTER BUILDERS' men provide valuable product-use know-how

In addition to working with you to assure optimum performance of your Pozzolith concrete, the Master Builders' man also works closely with owners, architects, engineers, contractors and commercial testing laboratories, making promptly available for your benefit our 46 years' experience in concrete.

TIME-TESTED ready-mix industry has proved POZZOLITH in commercial and specified concrete

More than 100 million cubic yards of Pozzolith Ready-Mixed Concrete have been used successfully on all types of jobs demonstrating its unequalled efficiency, economy and uniform dependability.

MODERN RESEARCH insures uniform, high quality in product design and manufacturing control

Master Builders' research resources in men and equipment—unexcelled in the industry—provide you with a dependable, uniform product which is readily adapted to your varied production requirements.

in short... **IMPROVED PERFORMANCE and ECONOMY**

If you are not already using Pozzolith to *economically* produce superior quality concrete, it will pay you to contact your local Master Builders' man for information on getting started.

COLORED MOTION PICTURE, "The Man With The Trowel", shows how Pozzolith and its adaptations—through control of water content, entrained air and rate of hardening—greatly improve your control of concrete quality. Film available for private showing to groups of any size.

The MASTER BUILDERS Co

Division of American-Marietta Company

18,000 pound payload on each axle of 4-wheel drive

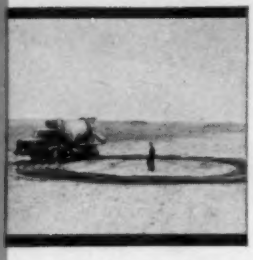
OSHKOSH 50 50

INCREASES PROFITS

for National Ready-Mixed Concrete Co.
Lancaster, California

Coast to coast ready-mixed concrete companies — like National of Lancaster, Cal. — find the Oshkosh 50-50 is a real profit maker! Here's 4-wheel drive traction to go where other concrete carriers can't go — to get jobs competition can't handle. With an Oshkosh 50-50, you get an 18,000 pound payload on each axle . . . easy maneuverability . . . quick load spotting . . . automatic locking center differential in transfer case . . . and other exclusive features. Ask for free demonstration. You'll be glad you did!

4-wheel drive provides sure-footed traction — makes tough going easy for Oshkosh.



Oshkosh's shorter wheel base means a smaller turning circle — greater maneuverability!

Have you seen Oshkosh's new "50-50" brochure? Write for your free copy today!

OSHKOSH

4 and 6 WHEEL DRIVE TRUCKS

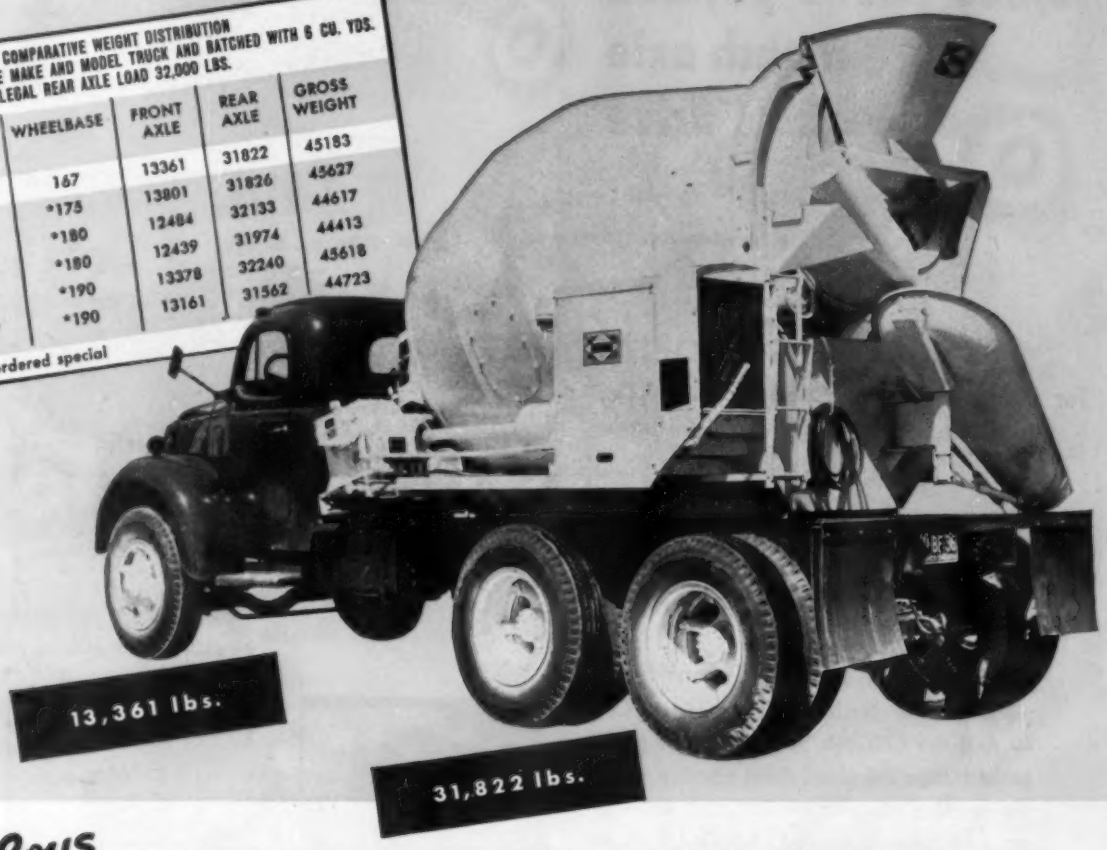
OSHKOSH MOTOR TRUCK, INC.
OSHKOSH, WISCONSIN

Compare BLAW-KNOX TRUKMIXERS *with ordinary truck mixers for better weight distribution on* SHORTER WHEELBASE TRUCKS

COMPARATIVE WEIGHT DISTRIBUTION
ALL MIXERS ON SAME MAKE AND MODEL TRUCK AND BATCHED WITH 6 CU. YDS.
LEGAL REAR AXLE LOAD 32,000 LBS.

LOAD ON THE ROAD	WHEELBASE	FRONT AXLE	REAR AXLE	GROSS WEIGHT
BLAW-KNOX	167	13361	31822	45183
MIXER "A"	*175	13801	31826	45627
MIXER "B"	*180	12484	32133	44617
MIXER "C"	*180	12439	31974	44413
MIXER "D"	*190	13378	32240	45618
MIXER "E"	*190	13161	31562	44723

*Must be ordered special



Hi-Boys mount on a more maneuverable, shorter wheelbase truck

WHEN YOU STUDY the table above you can see why Blaw-Knox Hi-Boy TRUKMIXERS can be mounted on shorter wheelbase trucks. Mounting the motor at the rear and the transmission at the end of the combination pedestal water tank, permits center of weight to be moved 20" forward and shortens the overall length. This gives better weight distribution with more weight on front axle so you can carry bigger *legal* payload.

Another Hi-Boy feature that assures better weight distribution and most efficient mixing is the larger diameter drum that mixes even zero slump concrete quickly and keeps the batch weight at the front of the mixer. Pedestal and flush water tanks are also combined to reduce weight by approximately half a ton and lower the center of gravity of the unit. There are dozens of other practical, profitable features in these units you will want to investigate. Call your Blaw-Knox distributor today.

BLAW-KNOX

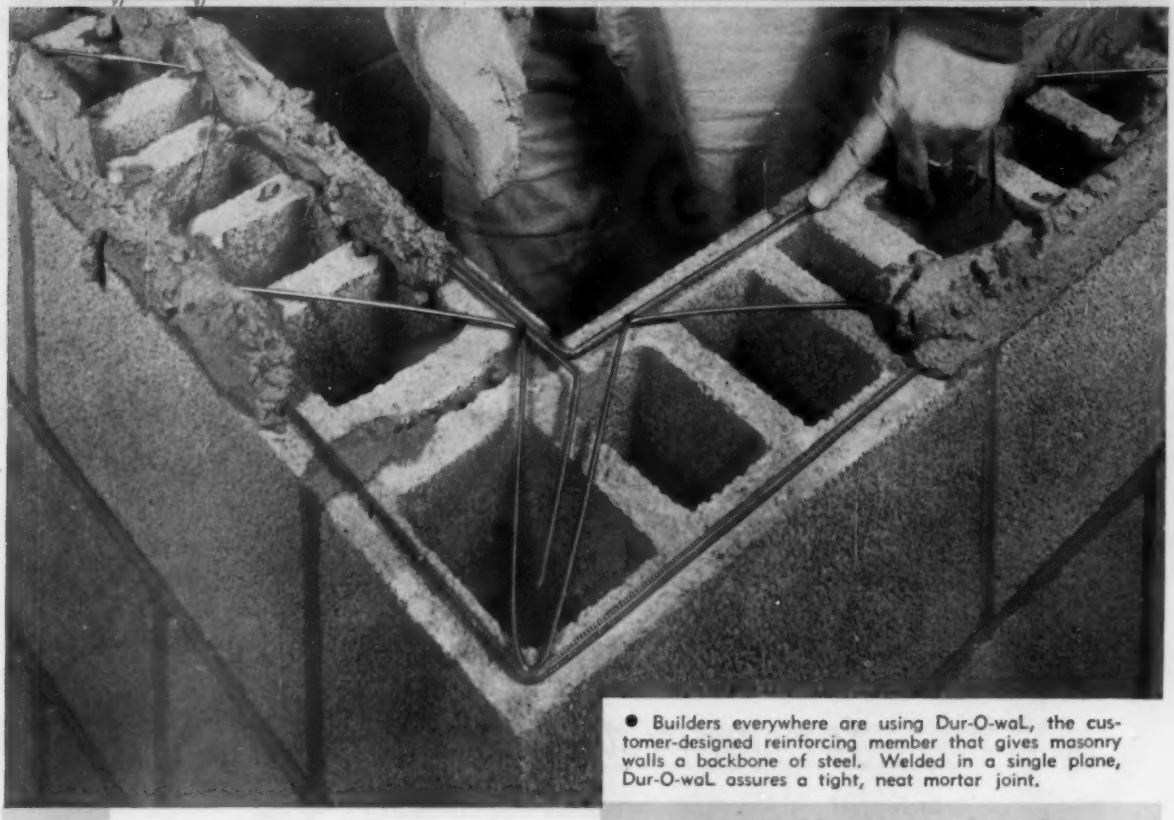
BLAW-KNOX COMPANY

CONSTRUCTION EQUIPMENT DIVISION
Mattoon, Illinois

MOST DEALERS AND BUILDERS PREFER NOT TO USE SUBSTITUTES . . . NOW THEY SPECIFY GENUINE

DUR-O-WAL®

Backbone of Steel for EVERY Masonry Wall



● Builders everywhere are using Dur-O-waL, the customer-designed reinforcing member that gives masonry walls a backbone of steel. Welded in a single plane, Dur-O-waL assures a tight, neat mortar joint.

Butt-Weld • Trussed Design

DUR-O-WAL®

the Backbone of Steel for EVERY masonry wall

YOU can depend on top performance with genuine Dur-O-waL on the job. Electrically welded of high tensile steel, Dur-O-waL works fast, lays flat to combat cracks in brick, block or tile masonry. Dur-O-waL's patented trussed design keeps side rods working together; puts more steel in the wall economically. Increase sales and customer satisfaction the proven Dur-O-waL way. Demand Dur-O-waL . . . available everywhere.

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Dur-O-wal Div., Cedar Rapids Block Co., **CEDAR RAPIDS, IA.** Dur-O-wal Prod., Inc., Box 628, **SYRACUSE, N.Y.** Dur-O-wal of Ill., 119 N. River St., **AURORA, ILL.** Dur-O-wal Prod. of Ala., Inc., Box 5446, **BIRMINGHAM, ALA.** Dur-O-wal Prod., Inc., 4500 E. Lombard St., **BALTIMORE, MD.** Dur-O-wal Div., Frontier Mfg. Co., Box 49, **PHOENIX, ARIZ.** Dur-O-wal, Inc., 165 Utah St., **TOLEDO, OHIO**

MOISTURE-PROOFING ADDITIVE

for concrete and cement materials

Now you can moisture-proof your concrete products by the simple addition of a small amount of LOSORB to the mix. The photograph above shows clearly the amazing effectiveness of Losorb. The blocks are identical except for the Losorb—water was poured on both simultaneously—and the picture shows the imperviousness of the treated block.

With this treatment you can produce water-tight concrete blocks with which to build walls so impervious that they can be painted inside without danger of blistering and peeling due to passage of moisture through the concrete. Losorb materially reduces the cost of providing water-tight building exteriors, and eliminates the need for any other waterproofing above grade.

In addition, Losorb makes the mix more plastic, homogeneous and easy to work, acts as a lubricant in the moulding operations, and minimizes cracks.

Losorb is easy to use—simply add a small percentage (2% to 4%) to the mix. No other change in processing is necessary to give your blocks the decided advantage of *waterproof!*

Pennsylvania Industrial Chemical Corp.
Clairton, Pennsylvania
Plants at:
Clairton, Pa.; West Elizabeth, Pa.; and Chester, Pa.
Sales Offices
New York, Detroit, Chicago, Boston, Los Angeles
Philadelphia, Pittsburgh, Cincinnati

PENNSYLVANIA INDUSTRIAL CHEMICAL CORP. (C)
Clairton, Penna.

Please send me information on LOSORB.

Name_____
Position_____
Company_____
Address_____

MARCH, 1956

CONCRETE

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FEATURES FOR THIS MONTH

We've Had It—Editorial 7

An explanation of why this issue devotes relatively little space to rehashing the programs of some recent major conventions.

Another Difficult Year 11

A top executive of one of the major cement concerns in the country talks about the cement outlook.

Colorful Exhibits Highlight Ready-Mix Convention 17

The recent annual convention of the National Ready Mixed Concrete Association in Chicago included the largest display of machinery in the history of the industry.

Block Makers Name Officers, Award Safety Trophies 20

Members of the National Concrete Masonry Association held a successful convention at New Orleans.

Treatment of Test Cylinders Can Reduce Strength Findings 30

A preliminary report on an investigation by NRMCA to determine the effect of improper handling on the indicated strength of concrete test cylinders.

Instrumentation in Block Plants 34

An expert discusses some of the basic control instruments which are necessary for economical and effective operation of a modern block plant. By Morris H. Gross.

New Unit That Cuts In-The-Wall Costs 38

Concerned about the dwindling use of block in residential foundation work, one block producer has developed a special unit that promises to reduce labor costs. By Phillip Paolella.

Investigate Before Investing 41

The mechanics lien laws are not sufficient protection against credit losses. This article suggests taking a careful look before extending credit. By Harold J. Ashe.

Dry Block With Propane Gas 43

Faced with a tough moisture limitation, this producer solved his problem by drying units with liquid petroleum gas. By Harry J. Miller.

DEPARTMENTS

Industry News 9
Calendar of Coming Events 9
Everybody's Business 12
New in the Specs 14
Sales Clinic 28
Letters to the Editor 31
Manufacturers' Notes ...46
New Literature 54
Equipment & Materials ..56
Book Page 60
Index to Advertisers 64

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BPA

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in a GOOD, SOUND FUTURE

BERGEN equipment, engineered and precision built to meet the growing demand for high-production block plant operation, is your positive investment for long-lasting, profitable plant operation. A complete line of equipment, backed by BERGEN 'know-how' is available to help you increase production . . . and profits.

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Call or write us today — we'll be pleased to help you modernize your block plant facilities.

BERGEN MACHINE manufactures a complete line of equipment, parts and accessories for the concrete block industry.

Write for further details on YOUR requirements or phone BERGEN "Collect", NUtley (N. J.) 2-7300.

BERGEN
MACHINE & TOOL CO., INC.

NUTLEY, N. J.

THE EDITOR'S PAGE

WILLIAM M. AVERY

We've Had It

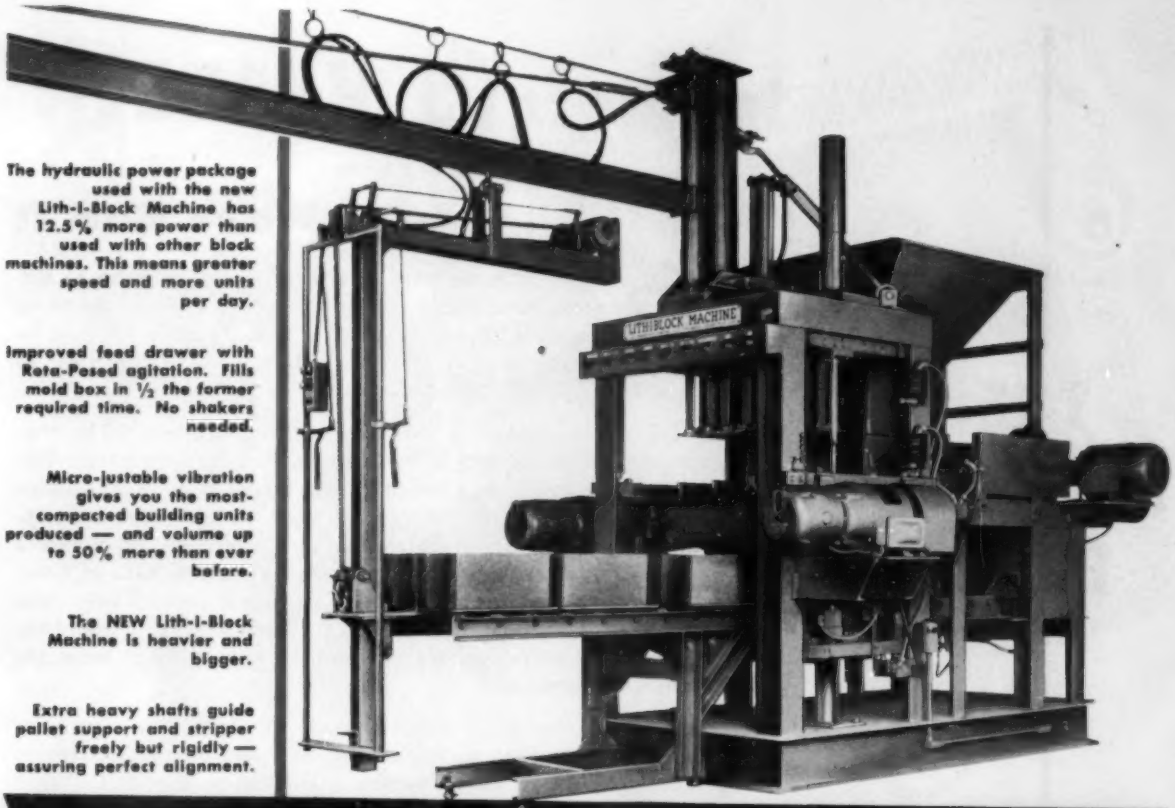
FROM time to time we have used this page to explain to our readers some basic change in the tone, emphasis or content of CONCRETE magazine. It isn't a practice that we have recourse to very often because we try, at least a fair share of the time, to plow a fairly straight furrow.

But no reasonably curious human being is likely to be contented with doing his job in the same fashion year after year. Editors, if they're worth their salt at all, are bound to be pretty curious critters, never satisfied for long with any basic technique for communicating with their readers. Once in a while we experience a mild surge of pleasure when we leaf through a new issue of CONCRETE, particularly when it seems to us that it comes fairly close to meeting the standard we try to set for ourselves. Far more often, however, we're uncomfortably aware of the ways in which we might have done a better job.

Anyhow, this is all just a prelude to announcing that hereafter we do not plan to publish running accounts of convention proceedings. We've never written a convention report (or read one, or leafed through one) without experiencing an uneasy feeling that about the best you could say for it was that it provided a comparatively effortless method of filling up a great many pages.

We have no statistics on the readership of exhaustive convention reports, but we suspect it's pretty low. Anyhow, we've always found them about as unreadable as the Congressional Record, and probably for pretty much the same reasons. A first class convention program is a thing teeming with life and color and human interest, but it's put together to be listened to, and to be observed, and perhaps most of all to be taken part in. When you dim out all the sound, black out all the color, eliminate all the response of the audience, drop out the excellent and effective visual aids now in such wide use, and finally abandon (as you inevitably do) the occasional gleams of humor that save many programs from becoming unbearably pompous, what remains is almost bound to be mere verbiage.

Maybe it all boils down to a conviction on our part that the *only* way anyone can really profit much from a convention is to take part in it. We will certainly continue to attend such gatherings in our industry at every opportunity, and when stories develop at conventions that should be relayed, and that lend themselves to magazine presentation, we'll do our level best to corral them. But no more endless yak-yak for thousands of words. We've had it.



The hydraulic power package used with the new Lith-I-Block Machine has 12.5% more power than used with other block machines. This means greater speed and more units per day.

Improved feed drawer with Rota-Posed agitation. Fills mold box in ½ the former required time. No shakers needed.

Micro-justable vibration gives you the most-compacted building units produced — and volume up to 50% more than ever before.

The NEW Lith-I-Block Machine is heavier and bigger.

Extra heavy shafts guide pallet support and stripper freely but rigidly — assuring perfect alignment.

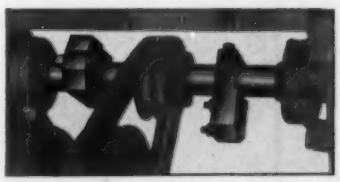
GO MODERN—GO LITH-I-BLOCK®

Redesigned Lith-I-Block Machines have increased output — up to 1000 blocks per hour.

LITH-I-BLOCK "Greater Production Machines"

NOW...HYDRAULICALLY or AIR POWERED

ROTA-POSED® AGITATION — provided by three heavy-duty rotating shafts with interlocking fingers



MICRO-JUSTABLE® VIBRATION — vibrator weights are adjustable to any vibration intensity desired.

BONUS QUALITY
LITH-I-BLOCK
MADE ONLY ON THE LITH-I-BLOCK MACHINE

THE BLOCK MACHINE WITH THE ***PROVEN FEATURES*** *MOST WANTED BY BLOCK PRODUCERS*

SALES AND SERVICE THE WORLD OVER

LITH-I-BAR COMPANY

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ONE PIECE OF EQUIPMENT OR A COMPLETE PLANT LAYOUT

LITH-I-BAR CO. HOLLAND, MICH.

Send me latest bulletins on Lith-I-Block Machine.

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COMPANY_____

ADDRESS_____

CITY & STATE_____

INDUSTRY NEWS

Henry Buchholz Dies Of Heart Attack While On Mexican Vacation

H. Buchholz

Henry Buchholz, 58, manager of the concrete products division of the Illinois Brick Company, a Chicago concern, passed away suddenly during a vacation trip to Mexico. A veteran of many years in the concrete block business, Mr. Buchholz had embarked upon the trip with other block producers following the recent annual convention of the National Concrete Masonry Association in New Orleans.

Mr. Buchholz had been active in NCMA affairs for many years, serving as a member of the board of directors from 1941 to 1946, and as president in 1947. At the time of his death he was chairman of the land and building committee for the association's proposed research laboratory.

Mr. Buchholz owned and operated his own block plant at Franklin Park, Illinois, until 1945, at which time he sold the property to the Illinois Brick Company. He continued to manage the Franklin Park plant, as well as a much larger plant which Illinois Brick built later at Blue Island, Illinois.

■

Rice, Sirrine and Tucker Elected by Detroit Group

At the recent annual meeting of the Concrete Improvement Board of Metropolitan Detroit. P. H. Rice, technical director of the American Concrete Institute, was elected chairman of the board. Elected to the board of directors as representative of the concrete products industry was C. A. Sirrine, executive secretary of the Concrete Products Association of Michigan. John Tucker, Ready Mix Concrete, Inc., was elected to the board to represent producers of ready-mixed concrete. W. G. Irmscher, Peerless Cement Corporation, will represent manufacturers of portland cement.

St. Louis Unit Masonry Group Elects Officers

• New officers of the Unit Masonry Association of Metropolitan St. Louis shown examining advertising layout after their recent election. Pictured, left to right, are Robert W. Conradi, Banner Sand and Materials Company, secretary; David W. Sloss, mason contractor, treasurer; Leo F. Havey, St. Louis Bricklayers Union, Local No. 1, president; and Bernard J. Loftus, mason contractor, vice president.

Calendar . . .

MARCH 6-10	American Concrete Pipe Association—Forty-eighth Annual Convention—Broadmoor Hotel—Colorado Springs, Colorado.
15-16	Better Concrete Conference—Iowa State College—Ames, Iowa.
15-17	Concrete Products Association of Washington—Annual Spring Meeting—Seattle, Washington.
26-27	Indiana Septic Tank Manufacturers Association—First Convention—Purdue University—Lafayette, Indiana.
APRIL 12-14	American Concrete Agricultural Pipe Association—Sixth Annual Convention—Brown Palace Hotel—Denver, Colorado.
13-14	Texas Ready Mixed Concrete Association—Annual Convention—Statler Hilton Hotel—Dallas, Texas.
23-25	Autoclave Building Products Association—50th Annual Convention—Hotel Statler—Detroit, Michigan.
MAY 16-18	Prestressed Concrete Institute—Second Annual Convention — Hollywood Beach Hotel—Hollywood, Florida.
21-22	Building Research Institute—Fifth Annual Meeting—Sheraton-Brock Hotel—Niagara Falls, Ontario, Canada.

Autoclavers to Meet in Detroit April 23-25

Dale Cobb, president of the Autoclave Building Products Association, has just announced that the organization will hold its 50th annual convention at the Hotel Statler, Detroit, Michigan, April 23 to 25. A program is being planned that will be of particular interest to block producers who are contemplating the installation of high-pressure-steam curing systems.

Other topics of discussion will include methods of producing lightweight cellular products using either portland cement or lime.

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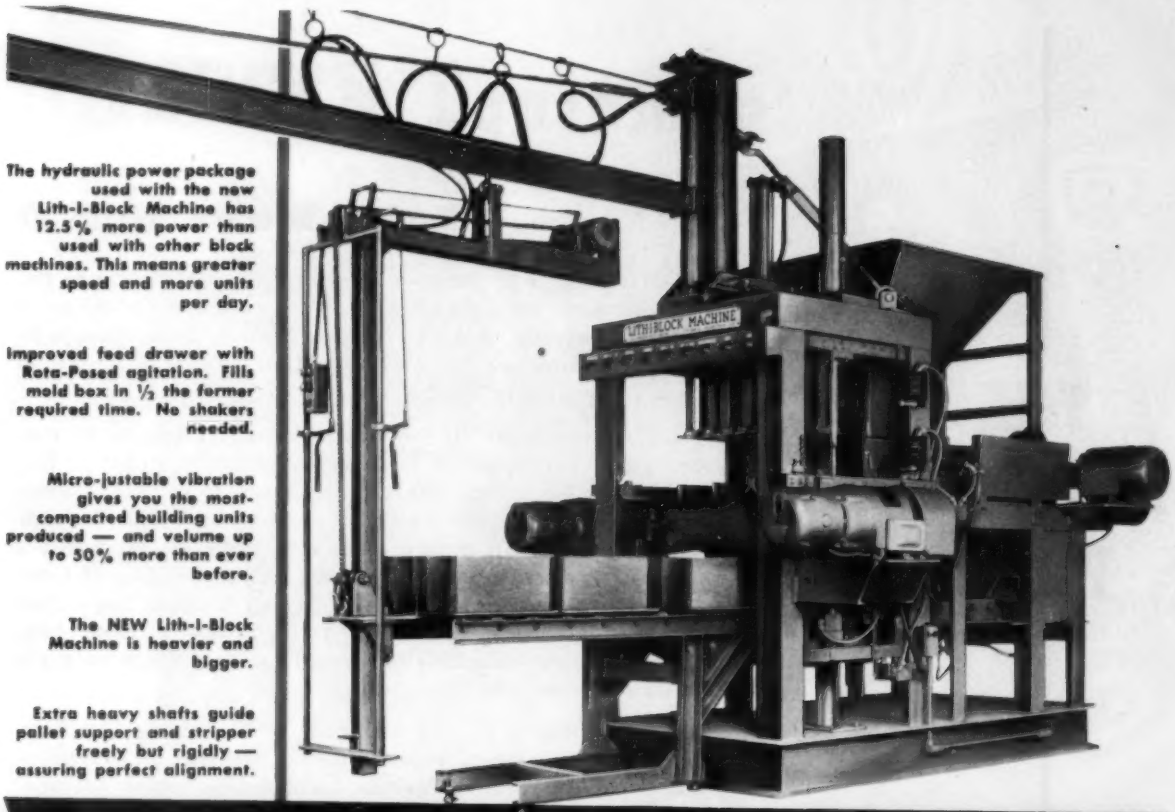

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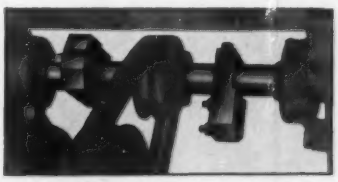

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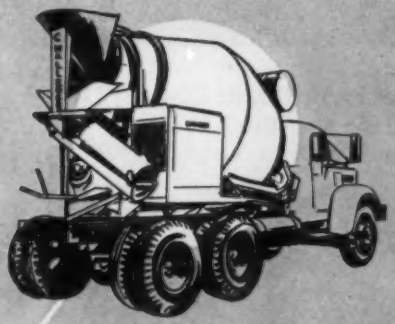
STANDARD SEPARATE ENGINE MODELS IN
3 • 3½ • 4 • 4½ •
5 • 5½ • 6 • 6½ • 8 Yard Sizes



SIDE ENGINE MODELS IN
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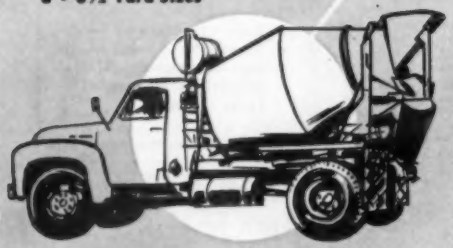
One Simple Reason Why
CHALLENGE
Pacemaker
TRUCK MIXERS
Lead The Field...
PROFIT!

POWER-TAKE-OFF MODELS IN
3 • 3½ Yard Sizes



ENGINE-TAKE-OFF MODELS IN
5 • 5½ • 6 • 6½ Yard Sizes

Your Challenge Distributor (listed on the next page) will be glad to give you complete details on the Challenge Profit Making Story

COOK BROS. TRUCK EQUIPMENT

COOK BROS. EQUIPMENT CO.

Exclusive World-Wide Distributor for Challenge Truck Mixers
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IDAHO
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MARYLAND
Heil Equipment Company ..... Baltimore
MASSACHUSETTS
Hedge & Mattheis Company ..... Boston
MICHIGAN
The Earle Equip't Co. .... Detroit, Grand Rapids
MINNESOTA
Ruffridge-Johnson Equip't Co., Inc. ... Minneapolis
MISSISSIPPI
Equipment, Incorporated ..... Jackson
MISSOURI
Missouri Construction Mach. Co. .... St. Louis
Westfall GMC Truck, Inc. ..... Kansas City
MONTANA
Seitz Machinery Company, Inc. ..... Billings
NEBRASKA
Fehrs Tractor & Equipment Co. ..... Omaha
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OREGON
Walker Truck & Trailer ..... Portland
PENNSYLVANIA
Aggregates Equipment Co. ..... Lancaster
Equipment & Supplies, Inc. ..... Pittsburgh
SOUTH CAROLINA
Ray Long Equipment Company ..... Columbia
SOUTH DAKOTA
Foster-Bell Company ..... Sioux Falls
TENNESSEE
Story Bros., Inc. ..... Knoxville
Tri-State Equipment Co., Inc. ..... Memphis
TEXAS
J. W. Bartholow Machinery Co. ..... Dallas
Fred Berryhill Equipment Co. ..... Lubbock
Equipment Supply Company, Inc. .... El Paso
Ingram Equipment Company ..... San Antonio
South Texas Equipment Co., Inc. ..... Houston
UTAH
Harris Truck & Equip. Co. ..... Tremonton
Atlas Equipment Co. ..... Salt Lake City
VIRGINIA
J. W. Burress ..... Roanoke
WASHINGTON, D. C.
Heil Equipment Company
WASHINGTON
Andrews Equip't Service, Inc. ..... Spokane
Reo Washington Sales Co. ..... Seattle
WEST VIRGINIA
West Virginia Tractor & Equip't Co. .. Charleston
WISCONSIN
Kelbe Bros. Equipment Co. ..... Milwaukee

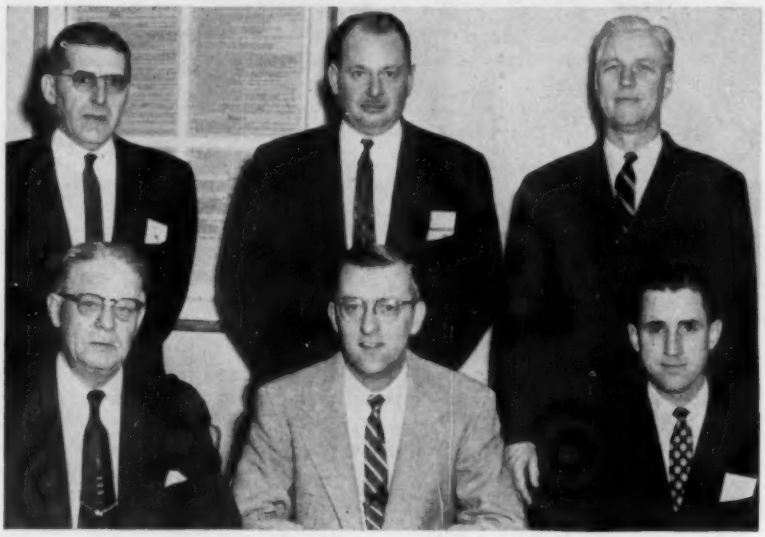
"Another Difficult Year" Cement Firm Executive Tells Ready Mix Men

Charles B. Baker, president of Universal Atlas Cement Company, told producers of ready mixed concrete at their convention in Chicago last month that 1956 will probably be another difficult year for both the makers and the users of portland cement. In a formal address before the 26th annual convention of the National Ready Mixed Concrete Association Mr. Baker told producers that in turning out an estimated 80 million cubic yards of concrete in 1955, they accounted for about 35 per cent of the total shipments of the portland cement industry.

In predicting that cement will continue to be in short supply throughout 1956, Mr. Baker said that a fair estimate of total cement output for the year would be around 320 million barrels, compared with about 300 million barrels in 1955. He expressed the belief that the shortage will be substantially eased by 1957, when the cement industry's output will probably hit 350 million barrels.

Noting that in 1955 new construction accounted for 11 per cent of gross national product, Mr. Baker predicted that within the next 10 years it will be necessary for the ready-mixed-concrete industry to at least double its capacity. He believes that by 1960 not less than 40 per cent of all the cement produced in the United States will be marketed in the form of ready-mixed concrete, and that the proportion may well jump to 50 per cent by 1956.

Mr. Baker urged ready-mix producers to study how their industry can take part in the huge job of bringing the nation's highways up to standard. In closing he referred to the relationship between the cement industry and the ready-mixed-concrete industry as "a successful partnership with a bright future."



Elect New Officers of Ohio Block Assn.

• At their recent fourth annual convention in Akron, members of the Ohio Concrete Block Association elected a new slate of officers. Seated are Sam C. Davis, Dayton, retiring president and ex-officio board member; Vincent J. McDevitt, Mogadore, president; and William H. Ebling, Lima, first vice president. Standing are John F. Royer, Columbus, secretary; Howard H. Renker, Cleveland, treasurer; and James W. Wells, Jackson, second vice president. Registration at the two-day meeting totalled 120.

Everybody's Business

CONSTRUCTION

- The first really optimistic forecast of home building activity in 1956 has come from Housing Administrator Cole, who predicted that the total for the year will come close to 1,300,000 units. This would be at about the same rate as 1955, which was the second best year in history.
- Nevertheless, a good many indicators point to a drop-off. Both FHA insurance applications and VA home appraisal requests were down substantially in December—about 40 per cent under a year ago. VA requests for the month were at a two-year low.
- Many observers believe that any drop in new-house starts will be more than offset by an upsurge in home repair activities. The Government predicts that homeowners will spend $14 billion for repair and modernization projects this year—a $3 billion increase over 1955.
- The Administration is looking for ways to encourage fix-up activities. Two proposals: to increase the time limit on Federally-backed home repair loans from three years to five years, and to heist the loan ceiling from $2,500 to $3,500.
- The nation's leading industrial engineering and building firms have bigger backlogs than at any time since the early part of the Korean War. The consensus is that 1956 should be one of the best years ever experienced by this segment of the construction industry. One possibly serious hitch in this rosy picture: anticipated shortages of structural steel and portland cement.

TAXES

- According to the American Institute of Accountants, there are a number of ways in which small businessmen can reduce tax payments—honestly. One of the most important: proper choice of depreciation methods. The easiest method, of course, is straight-line depreciation; *i.e.* dividing the cost of the asset (less anticipated trade-in or sale value) by the number of years of estimated useful life. Other methods, such as "sum of the digits" and "declining balance", depreciate a greater portion of cost during the early years. These methods are usually most helpful to firms spending relatively large amounts for new equipment. Estimates of future earning and tax rates should be taken into account before deciding which depreciation method to use.
- Another important tax decision involves the treatment of research and development expenses. Should they be handled as immediately deductible? Or should they be amortized over a period of years? If a tax benefit is necessary to finance the project, chances are an immediate deduction is the best answer. But it might be better to spread the costs over a number of years in the case of a company that expects its income to increase.
- Your selection of the tax year can also be an important decision. Best rule of thumb here: use the fiscal year that corresponds closest to the cycle of business operations, ending when inventories, loans and accounts receivable are at their seasonal lows.
- Another important item: when repairs and improvements are made to business property at the same time, they should be billed separately. Repair costs can be deducted as an expense for the current year. But if they're thrown in with improvement costs, they must be capitalized and depreciated over a period of years.
- Out of some 600 corporations recently covered in a survey, it was found that only 17 per cent have taken advantage of new depreciation rules contained in the 1954 tax law. The logical inference seems to be that most businessmen would rather gripe about the size of their tax bills than to take advantage of perfectly legal means of reducing them.

Census Study Shows Shrinking Work Week

A new Government report shows the average work-week has been getting gradually shorter since World War II, despite some boom-time reversals in the trend.

The average work-week for all employed persons—from farm hands and factory workers to housekeepers and corporation presidents—declined by almost two hours between May, 1947, and the like month of 1955. During this eight-year span, the report says, the farmers' work-week was shortened by a little better than three hours while the work-week in non-agricultural industries was reduced by 1.3 hours.

These and other facts and figures are found in a Census Bureau study just made public. The survey gives a general outline of work-week trends in the post-war period and a somewhat more detailed account of what happened to the work-week in 1955.

The Census Bureau document doesn't offer any conclusions as to whether the post-war work-week trend looks good or bad for the economy. However, the report observed that variations in the length of the work-week from year to year are pretty good barometers of the nation's business health.

■

No Reason for Cement Shortage in Tennessee

According to information published by Marquette Cement Manufacturing Company, one of six firms now operating plants in the state of Tennessee, the state's present need of cement totals not much more than 25 per cent of presently available productive capacity. The company discloses that the six plants now in production have a total annual capacity of 8,210,000 barrels, and that by mid-1956 the rate of output will increase to 8,660,000 barrels annually.

Officials of Marquette insist that the shortage of cement that occurred in Tennessee last year resulted entirely because too large a share of output was distributed in out-of-state markets. The company points out that four out-of-state plants also ship cement into Tennessee, bringing the present total of all available capacity to 19,208,000 barrels.

SELL TODAY'S EXPANDING MARKET WITH Columbia's 12" HIGH

Today's progressive block maker isn't satisfied with a *fraction* of his profit potential. He's selling the *entire masonry market* . . . a market vastly expanded by an ever-increasing demand for concrete units in special faces, shapes and sizes.

With Columbia's revolutionary 12"-High you can enter this profitable specialty field with little expansion of investment or personnel.

Its precision, high-speed output of concrete building units in 8-inch and 4-inch heights is complemented by its unique ability to produce many 12"-high specialties: Drain tile, silo staves, water meter boxes, Roman and Norman tile, partition blocks, specially designed face block and others.

TODAY'S MOST ADVANCED DESIGN IN BLOCK MACHINES

. . . yet the cost of the 12"-High is less than many standard block machines. It gives the brick or block maker peak production for existing outlets PLUS access to almost unlimited new sales possibilities. For consistently larger profits, sell the *entire* market with a Columbia 12"-High.

For prompt information on Columbia's complete line of fine block-making machinery and equipment, write, wire or phone.

Columbia MACHINE

Home Office: 107 S. GRAND, VANCOUVER, WASHINGTON

Factory Branch and Warehouse at Mattoon, Illinois.

District Offices in: Wisconsin, Illinois, South Carolina, Mississippi, Virginia, Florida, California, Massachusetts, New Jersey, Texas, Montreal, Quebec, and Vancouver, British Columbia.

NOT IN THE SPECS

Fast Women and Slow Horses

According to a report we've read somewhere, dishonest workers, "lured into crookedness by gambling, fast women, and liquor, among other temptations", cost American employers more than $500,000,000 a year. Despite the Victorian language, the supporting data appear to be reasonably contemporary, and so we're passing on some of the highlights for the general amazement of our readers.

After making the flat observation that no man can be called honest or dishonest, the report goes on to say that any one or several of more than 200 possible factors may exert the pressure which causes a nominally honest employee to deviate. The main factors, however, are "fast women" (a term we thought had expired back in the 23 skidoo era), horse race betting, excessive drinking, and living beyond income.

In order, presumably, to enable employers to eliminate potentially dishonest employees before they succumb to such pressures, the report includes what it calls a profile of the average dishonest employee. "He is a man, because men cause 93 percent of all dishonesty losses. He is 35 years old and has been employed nine years and three months. He was on the job for six years and five months before he stole his first dime. Then he continued his thefts for three years and two months before he was caught."

Well, there you have it, fellows. You can cut out 93 percent of your losses from embezzlement, fraudulent conversion, theft, and other crimes by dishonest employees just by firing all the men on your payrolls. If we were doing it, we'd replace 'em with those fast women who start most of the trouble in the first place. Might even slow 'em down a notch or two.

Psychology Lesson

The following item really belongs on our Sales Clinic page, but this department is having a lean month and just can't afford to be generous. It seems a couple of Ohio concerns weren't getting much results from an offer to send their salesmen and their salesmen's wives on Caribbean cruises as an inducement to increase sales quotas. So they went into a huddle with some space flight experts and worked out a deal under which the successful salesmen and their wives could optionally elect to take a trip to the moon whenever such jaunts become practicable.

Our source of information hasn't indicated the effect this new inducement has had on sales volume, but we still think the approach is all wrong. In our estimation the original bait would have worked fine if they had just limited the prizes to the salesmen *or* their wives.

Participation

Writing on the subject of home show exhibits in our January issue (page 21), Joe Bell says it's a good idea to get as many "participation gadgets" as possible into display booths. Then, however, for some obscure reason he goes on to say "This doesn't mean a Bikini-clad model with a fixed grin and a vacant look."

Mr. Bell tells about the experience of an exhibitor who claimed that in

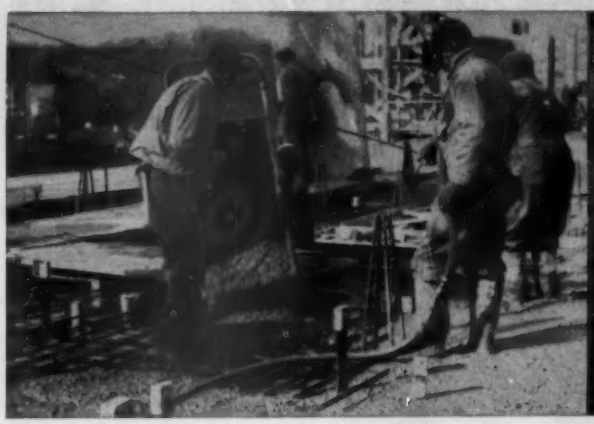
two days he had attracted more attention with a St. Bernard dog in his booth than he had aroused with Bikini-clad models in five years. That's an impressive statistic, and we have no evidence with which to refute it, but we still can't help feeling that a Bikini-clad model is a more practical "participation gadget" than any of the St. Bernard dogs we've played around with lately. Guess it's all a question of taste. Wonder what effect a Bikini-clad St. Bernard would have?

• "How'd I know you wanted a date for your friend? All you said was to bring along a good mixer."

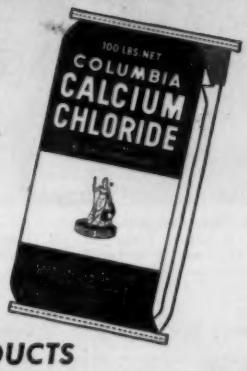
Chips Off the Old?

We want to take this opportunity to thank the 69 thoughtful readers who sent us clippings of that Associated Press dispatch out of Covington, Kentucky, concerning the woman who sued her husband for divorce and asked custody of 2,000 concrete block. A character we know, whose taste in puns is even lower than ours, says he supposes that after she gets the block she'll go right home to mortar.

This is the 129th of a series of ads featuring



Better, faster concrete and concrete products with COLUMBIA CALCIUM CHLORIDE



IN READY MIX

Ready mix producers can render a genuine service to customers by recommending the use of Columbia Calcium Chloride—especially at temperatures below 70°F. when the set and strength of plain concrete are greatly retarded.

You can add Columbia Calcium Chloride to the mix either at your plant, or on the job.

- Makes initial and final set three times faster
- Increases workability
- Increases early and ultimate strength
- Releases forms faster for re-use
- Cuts down on overtime
- Helps meet work schedules

IN CONCRETE PRODUCTS

Whether your concrete products are blocks, pipe, precast or prestressed units, the use of Columbia Calcium Chloride will improve production and lower manufacturing costs. Here are some of the advantages you gain by adding Columbia Calcium Chloride to your mix:

- Reduces time required for initial set
- Gives higher early strength
- Reduces curing time
- Reduces cracking
- Allows for quicker handling
- Reduces breakage
- Permits earlier shipping

These advantages of Columbia Calcium Chloride in both ready mix and concrete products are especially important during cool weather. Calcium chloride is not an anti-freeze but the time required for protection in freezing temperatures is shortened, often as much as 50 per cent. Columbia Calcium Chloride works equally well with normal, air entrained and early high strength cements—and is easily controlled in either flake or liquid form.

WRITE TODAY FOR COMPLETE INFORMATION . . . PLEASE SPECIFY WHETHER YOUR INTEREST IS IN READY MIX OR CONCRETE PRODUCTS

COLUMBIA-SOUTHERN CHEMICAL CORPORATION
SUBSIDIARY OF PITTSBURGH PLATE GLASS COMPANY
ONE GATEWAY CENTER · PITTSBURGH 22 · PENNSYLVANIA

DISTRICT OFFICES: Cincinnati • Charlotte • Chicago • Cleveland • Boston New York • St. Louis • Minneapolis New Orleans • Dallas • Houston • Pittsburgh • Philadelphia • San Francisco
IN CANADA: Standard Chemical Limited and its Commercial Chemicals Division

This is the 129th of a series of ads featuring leaders of the Concrete Products industry who are stepping up block production with Besser Vibrapac machines.

Another BESSER BOOSTER

Talking about the VIBRAPAC

"I always felt it was the Best Machine!"

These words were spoken by H. Melvin Binkley, President of Binkley & Ober, block-makers in East Petersburg, Pennsylvania. The opinion is based on actual experience.

In the sand and gravel business since 1940, Binkley & Ober installed their first Besser Vibrapac machine in 1946. Block sales forged ahead and when in 1952 the company required additional block making equipment, it was natural for them to secure another Vibrapac machine. Today, both Vibrapacs are working to full capacity, producing high-quality block for industrial plants, homes and public buildings in the Petersburg area.

If you want TOPS in block making machines, specify VIBRAPACS. Contact your nearby Besser representative, or write directly to the Besser office for descriptive literature.

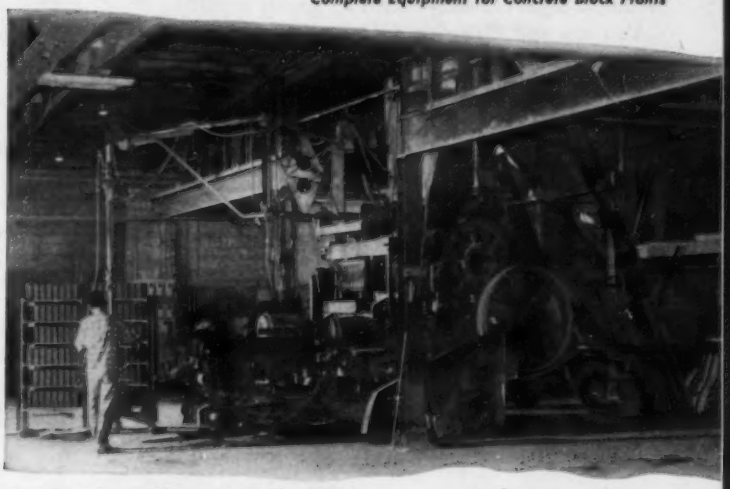
BESSER Company • Box 127, Alpena, Mich., U.S.A.

Complete Equipment for Concrete Block Plants

Binkley & Ober executives: (left to right) H. M. Binkley, President; H. B. Ober, Treas.; C. G. Ober, V.P. Sales; H. M. Binkley, Sec.; and J. H. Emick, V.P. Production.

Yard scene at Binkley & Ober. Note neat stockpiles of block due to block cubing.

Interior view showing cubing setup. Besser Bridge Crane Block Cuber eliminates lifting block by hand. Speeds truck loading.



One of two Besser Vibrapacs in Binkley & Ober plant. Note mixer installed in rear of machine. Mixed materials are raised to Vibrapac by means of a Besser Skip Loader.

National Housing Center, Washington, D. C.,

where Besser maintains a permanent exhibit of concrete masonry. Be sure to visit this fine display.

A 8683-1PBC

BESSER VIBRAPAC

first in concrete block machines

Colorful Exhibits Highlight Ready-Mix Convention

A colorful machinery show and an informative convention program vied for attention at last month's 26th annual convention of the National Ready Mixed Concrete Association in Chicago. The exhibit, a biennial affair, was staged in Chicago's venerable Coliseum, where approximately three times as much floor space was available as for any similar affair in history. Such was the demand for space, however, that a rationing system had to be adopted some months in advance of the opening date.

Robert Mitchell, Consolidated Rock Products Company, Los Angeles, California, was elected president of the association. He succeeds Louis C. Schilling, I. E. Schilling Company, Miami, Florida. Other officers elected during the four-day meeting include the following: John W. Roberts, vice president; M. Eugene Sundt, vice president; F. E. Schoeweiler, treasurer; and Henry J. Brown, John B. Donavan, Murray S. Simpson, and Ralph H. Anderson, as additional members of the executive committee.

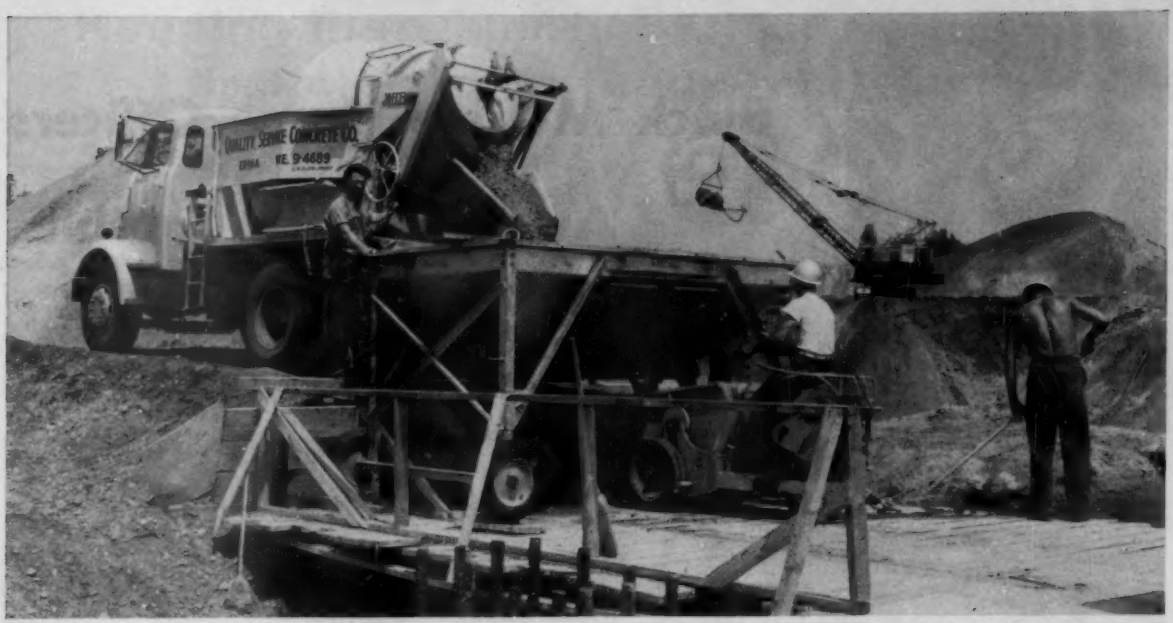
At the Chicago meeting it was revealed that the association now represents 697 active members, a gain of 84 since a year ago. It was estimated that while membership represents only about 35 per cent of the companies in the industry, close to 75 per cent of total annual output is accounted for by member firms.

Association trophies were presented at the Chicago convention to representatives of four concerns which had outstanding safety records in 1955. The Class A award for plants with more than 100,000 cubic yards of production. was presented to Fischer Lime & Cement Company, Memphis, Tennessee. Other winners were Stewart & Nuss, Inc., Fresno, California (50,000 to 100,000 cubic yards); Lake Cities Corporation, East Chicago, Indiana (25,000 to 50,000 cubic yards); and Central Builders Supply Company, Sunbury, Pennsylvania (under 25,000 cubic yards).

It was announced that the association's 1957 annual convention will be held in Los Angeles, California, February 11-14.

• Officers of the National Ready Mixed Concrete Association are: M. Eugene Sundt, vice president; Robert Mitchell, president; Louis C. Schilling, immediate past president; and John W. Roberts, vice president. F. E. Schoeweiler, treasurer, was not available for this group photograph.

TOP DOOR REMOVES to receive pre-mixed batch in one fast drop. Light, easily handled door is designed for quick opening and closing. Top charging permits use of rear discharge door which completely seals the drum.



ONE HALF-TURN OF A HAND WHEEL (grouped with other rear controls) fully opens discharge door. In transit, this door rotates with the drum, maintaining a metal-to-metal seal against loss of moisture or spilling of concrete. Job pictured here is $10,000,000 Southdale shopping center requiring 40,000 yds. of concrete.

Multiply by 43...all Jaeger

Quality, Service Concrete Co., of Edina, Minn., uses an efficient combination of central mixing plant with top loading Jaeger sealed-drum agitators. With pre-mixed concrete, top loading is, of course, the fastest method. It also permits the use of a closed discharge door which completely seals the drum while in transit. The owners, who also operate another central mixing plant in downtown Minneapolis, now have a fleet of 43 truck agitators, all Jaeger.

More ready-mixed concrete is sold in Jaeger truck mixers than by any other method. As leader, Jaeger offers the only complete line of mixers with choice of open-end or sealed-end loaders or sealed door, and water system and other equipment to fit any operation. All standard 1956 models, from 3½ to 8½ cu. yd., have 3-speed transmission, shorter center of gravity and reduced weight. Your Jaeger distributor knows your local conditions, weight limitations and practices. Check with him or send, today, for catalog.

JAEGER 5′ HOPPER HEAD is ideal for discharging to buckets. Adding chute sections gives further choice of 8′, 10′ or 13′ chute lengths. Hopper can also be swung away or completely removed for direct discharge. Pour pictured is on St. Louis Park high school, near Minneapolis.

Fleet consists of 43 of these Jaeger units.

THE JAEGER MACHINE COMPANY

522 Dublin Avenue, Columbus 16, Ohio

LOADERS • COMPRESSORS • PUMPS
CONCRETE MIXERS • PAVING MACHINES

• Earl H. Peterson (right), who took office as president of the National Concrete Masonry Association during the recent convention at New Orleans, receives the traditional handclasp from outgoing president S. Carl Smithwick.

Block Makers Name Officers Award Safety Trophies At New Orleans Meeting

The 36 annual convention of the National Concrete Masonry Association lured some 1500 men and women, representing more than 450 producers of block, to the city of New Orleans during the week of January 23. There, both as on-lookers and participants, they took part in another of their association's well planned and smoothly executed programs of business and technical discussions.

Earl H. Peterson, Ideal Cement Stone Company, Omaha, Nebraska, was installed as president of NCMA for 1956, succeeding S. Carl Smithwick, Smithwick Concrete Products, Portland, Oregon: Three new directors were also elected during the New Orleans meeting to serve three-year terms. They are W. B. Hovey, Hovey Concrete Products Company, Santa Fe, New Mexico; Max H. Miller, United Cement Products Company, Wichita, Kansas; and F. L. Williamson, Holloway Concrete Products Company, Winter Park, Florida.

One of the block industry's more immediate problems, that of safety, was spotlighted at the New Orleans meeting by the presentation of awards in the association's second annual safety competition (CONCRETE, February 1956, page 14). Top award winners in the three classes of competition were Geist Builders Supply Company, Cleveland, Ohio; Palmetto Quarries Company, Columbia, South Carolina, and Fischer Lime & Cement Company, Memphis, Tennessee. In presenting association safety plaques to representatives of the winning concerns, Henry Quaritius stated that the competition as a whole had established an urgent need for concerted accident-prevention work in the block industry. He expressed mild satisfaction with a 20 per cent increased participation in NCMA's second formal competition, but he noted that even with this gain only about one member firm in six was represented.

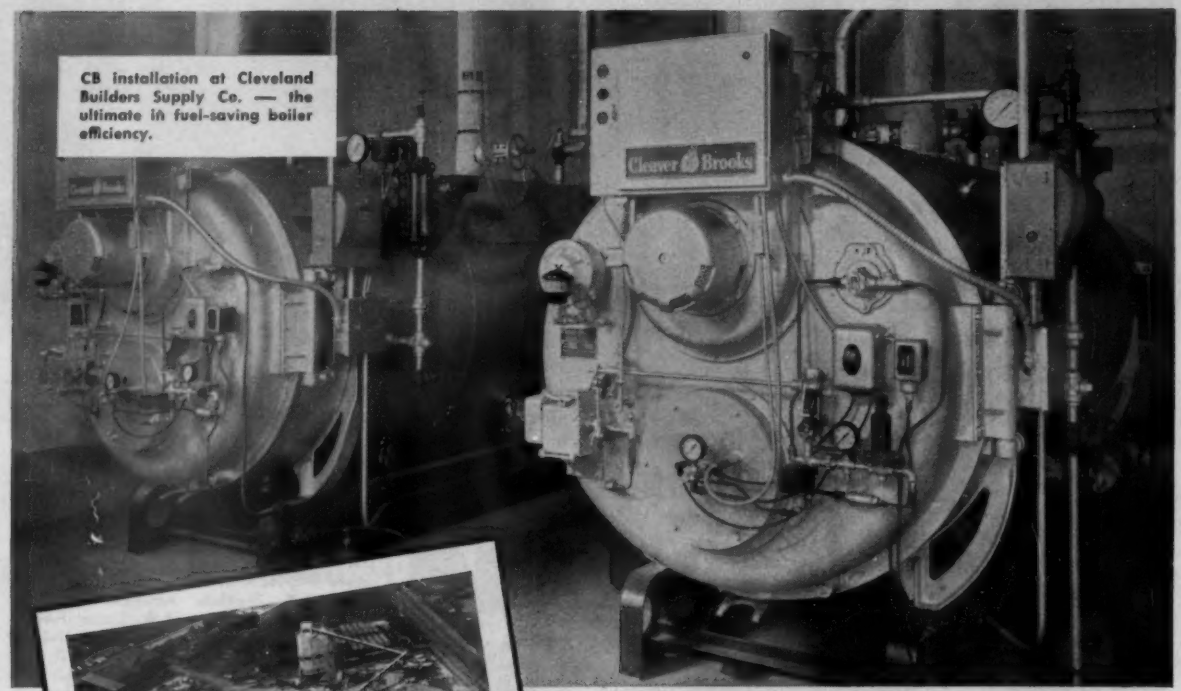
At the close of the New Orleans meeting it was announced that the association's next annual convention is scheduled to be held in St. Louis, Missouri, February 25-28, 1957. This meeting will be held in conjunction with the 10th biennial Concrete Industries Exposition.

• RIGHT: Newly elected directors of NCMA are F. L. Williamson, Winter Park, Florida, W. B. Hovey, Santa Fe, New Mexico, and Max H. Miller, Wichita, Kansas.

BELOW: Henry Quaritius, who presided at the safety award session of the meeting, and trophy winners Hamilton Lott, Palmetto Quarries Company; R. E. Sheer, Geist Builders Supply Company; and W. A. Carter, Sr., Fischer Lime & Cement Company.

Keeping the water hot . . . for America's first electronic ready-mix plant

A job well done by new CB boilers



CB installation at Cleveland Builders Supply Co. — the ultimate in fuel-saving boiler efficiency.

Aerial view of new plant. Control station in tower, garage and boiler house at upper left.

New Cleaver-Brooks CB boilers meet all heat demands for continuous, high-capacity, winter-time operations

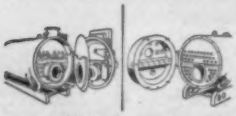
PLANT "J" of the Cleveland Builders Supply Co. is the first to utilize the recently developed Butler electronic batching system. *The firm sought to apply the absolute last word in technological progress in selecting equipment* — for efficiency, compactness, flexibility and accuracy of control for concrete quality.

Installation of modern, oil-fired CB boilers in this entirely new plant — possibly the largest in the U.S. — was, therefore, a "natural." The twin 80-hp units provide *all heat for winter* operations, helping maintain the high-level 180-200 cu. yd. per hour schedule set up for the year.

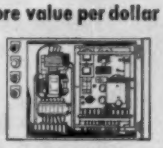
Most modern boilers of their class

New CB brings *big boiler standards* to users in the 15 to 150-hp class. Unit is years ahead in function, safety and appearance. Money-saving performance is proved on hundreds of installations! For complete details, write for new CB bulletin. Cleaver-Brooks Company, Dept. C, 350 E. Keefe Ave., Milwaukee 12, Wisconsin, U.S.A. Cable Address: CEEBEEWEST — all codes. Ask for catalog AD-137.

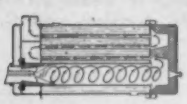
These typical exclusives mean more value per dollar



EASY MAINTENANCE — Hinged doors, front and rear, swing out of way when cleaning tubes.



EASY OPERATION — Controls on front head. Electronic combustion device standard equipment.



FOUR-PASS DESIGN AND FORCED DRAFT—Scrubs more heat from long gas travel. Combustion air in constant supply.

OIL, GAS OR COMBINATION OIL/GAS FIRING—10-second fuel interchange. Full flexibility for greatest economy.

Cleaver Brooks

TWENTY-FIVE YEARS OF LEADERSHIP
BY THE ORIGINATORS OF THE SELF-CONTAINED BOILER

Siding Block

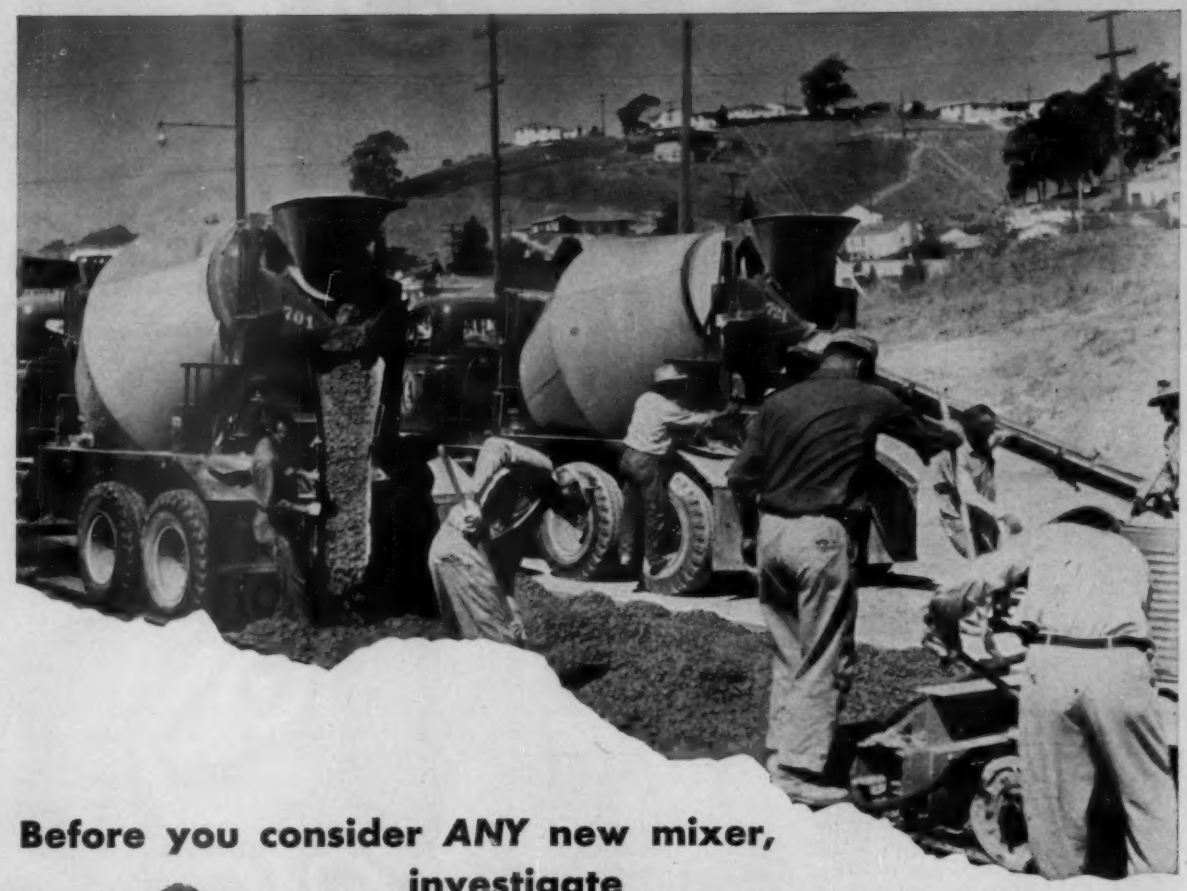
● Indicative of the versatility of concrete masonry units, this home, located at Muskegon, Michigan, looks for all the world as though it had been built of clapboard siding. The siding block, of course, is just one of the many special units which can be mass produced on modern concrete block machines.

Drain Tile Confab

● Pictured at the Mid West Concrete Drain Tile Manufacturers Meeting, Purdue University, sponsored by Purdue Agricultural Extension Service and the American Concrete Agricultural Pipe Association are: Thomas K. Breitfuss, American Concrete Pipe Association; Donald R. Sisson, Purdue University; George Spencer, Purdue University; John G. Sutton, Washington, D. C.; Dalton G. Miller, St. Paul, Minnesota; and Howard F. Peckworth, American Concrete Agricultural Pipe Association.

Texas Block Assn.

● A slate of new officers will soon start directing the activities of the Texas Concrete Masonry Association. Pictured above are E. C. Jancik, member of the board, J. C. Fountain, retiring president, J. Barton, member of the board; N. Browne, secretary-treasurer, E. Hahn, president, and C. T. Crowe, director.



Before you consider *ANY* new mixer, investigate the revolutionary new

integral*

ONE FRAME FOR BOTH TRUCK AND MIXER

ONE ENGINE FOR BOTH

Because of its proved, practical features, the new Smith INTEGRAL is providing the ready-mix industry with an entirely new set of standards and advantages.

You have ONE frame for both truck and mixer.

You use ONE engine for both.

Power is taken off the truck engine ahead of the clutch. The mixer continues to run regardless of clutching or gear shifting. You can select most standard trucks for the Smith INTEGRAL, and forget about the former costly "fight" between mixer frame and truck frame.

This composite of a mixer and a standard truck results in significant savings. Write for details.

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A 8660-1P

Single family Homes Bolster Housing Picture

Contract awards for construction of single-family homes in the 37 eastern states have almost exactly doubled in the past four years, an official of F. W. Dodge Corporation told the National Association of Home Builders convention.

Addressing a session on the outlook for homebuilding at the association's annual convention, Dr. George Cline Smith, Dodge economist, said that total figures on housing starts or valuation tend to obscure the rapid growth in single-family houses, because of an offsetting decline in multi-family buildings.

"The 1955 Dodge Reports total of contract awards for one-family houses, reached $8.9 billion," Dr. Smith said. "This was a gain of 21 per cent over the previous record set in 1954, and an increase of 97 per cent since 1951. This great growth of one-family housing is obscured in the figures for total residential building, which rose only 64 per cent between 1951 and 1955.

"The reason for the difference is that over the same period, contracts for apartment construction were reduced by nearly half, and two-family buildings also dropped substantially.

"Virtually all of the residential increase between 1954 and 1955 was also in the one-family category, with contracts for multiple dwellings remaining practically stationary at the 1954 levels."

Dr. Smith said that he expected home-building to continue at high levels for the next decade or longer.

"Even though we expect the number of non-farm housing starts in 1956 to drop about 10 per cent below last year, the trend toward larger and more expensive homes will mean that dollar volume will not go down nearly as much as that. Since non-farm household formations are now at a fairly low ebb and should be rising substantially in the years to come, and since indications are that the economy will remain relatively prosperous, I would say that the absolute minimum figure for housing starts in the next ten years is twelve or thirteen million. Actually, I think the figure will turn out to be substantially more than that."

■

Ohio Ready Mix Producers Hold Breakfast Meeting

Well over 200 members and guests of the Ohio Ready Mixed Concrete Association attended the organization's annual breakfast in Chicago on February 14. The affair was held during the convention of the National Ready Mixed Concrete Association.

It was announced that the Ohio group's next annual meeting will be held in Cleveland June 18 and 19, and that the annual short course will be presented at Dayton January 14 to 16, 1957. Charles O. Dittrick, association president, told the gathering that membership now includes 138 actives and 35 associates.

Masons' Union Official Addresses Block Makers

In a talk on concrete masonry's part in the national building program, William R. Connors, first vice president of the Bricklayers, Masons and Plasterers International Union, told members of the National Concrete Masonry Association that it is the duty of block producers to turn out ever better products, because despite the increased acceptance of the material, there are still threats to its use. Where there are trends away from the use of block, he explained, it can usually be traced to the use of inferior raw materials, lack of uniformity, or poor workmanship.

Mr. Connors said his union is promoting masonry construction by making every possible effort to show the building public that it can be done better with masonry. It is always on the lookout, he explained, for reasons why builders use substitute materials. It also investigates claims of competitive products on such points as economy, time savings, durability, appearance and other characteristics.

The masons' union promotes the use of concrete masonry by stimulating apprentice training, Mr. Connors said. He appealed to NCMA members to join in this program, since better masonry work will inevitably create greater acceptance of concrete products. Mr. Connors' talk was one of the features of the recent NCMA Convention in New Orleans.

■

Lightweight Aggregate Group Okays More Research

• An intensified research program aimed at broadening information about expanded clay and shale aggregates was approved at the annual meeting of The Expanded Clay and Shale Association in New Orleans. Officers of the organization pictured above are T. R. Berger, Allentown, Pennsylvania, executive secretary; W. F. Atkins, Lansford, Pennsylvania, president; R. A. Utiger, Denver, Colorado, vice president; and Ron C. Hardy, Warners, New York, secretary-treasurer.

ARBA Elects Officers At Miami Beach Meeting

New officers of the American Road Builders' Association were announced at the organization's 54th annual convention at Miami Beach, Florida.

Reelected president was John N. Robertson, director of highways, District of Columbia, Washington, D. C. Newly elected as district vice presidents were the following: northeastern district, Charles M. Noble, chief engineer, New Jersey Turnpike Authority; southern district, Charles W. Smith, president, Smith Engineering and Construction Company; central district, Julien R. Steelman, president, Koehring Company; western district, W. A. Bugge, director of highways, state of Washington.

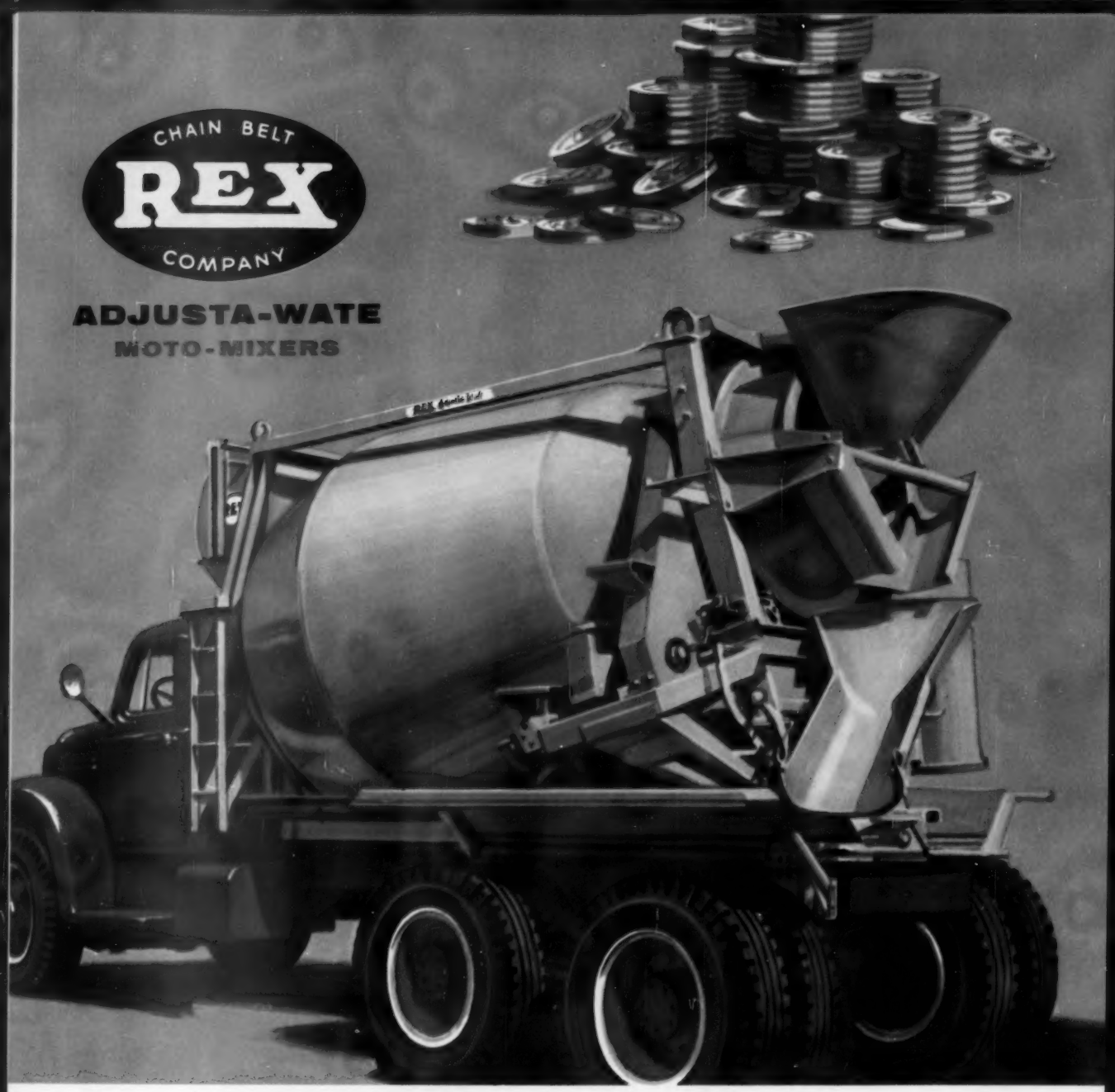
CHAIN BELT

REX

COMPANY

ADJUSTA-WATE

MOTO-MIXERS



What's the "Price Tag" on Leadership?...

Actually no price can measure the value of Rex leadership ... the design and performance contributions that have pioneered virtually every development in truck mixers. To you, the ready-mix operator, there is no "price tag" on this leadership ... you pay no premium to get the finest!

To Rex, the price of leadership is substantial. We must always go first ... be ahead of the field ... originate, test and prove the new and the better. It would be more economical, in time, effort and money, to rest content ... let others assume the burden. But, we've the habit of leadership and our faith in the future of ready-mix concrete — your future — constantly drives us to seek better methods ... better equipment to serve your needs.

Who can measure the value of the many Rex contributions since we built our first truck mixer: the chain drum drive, the 3-point drum mounting, the ball and socket front drum bearing, Manten steel drums, long-life transmissions, bolted-in mixing blades, drop-forged drum rollers, larger size mixers, automatic throttle control, electronic strain gauge testing, the Adjusta-Wate design principle, and the many others? It's beyond computation. And, while

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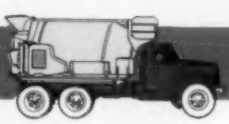


CONTINUED FROM PREVIOUS PAGE . . .

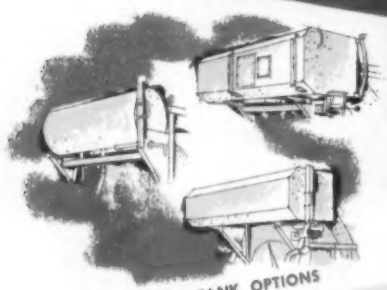
many of these cost-saving, profit-making developments are common to most truck mixers today, others are still exclusive on Rex machines. But, as history repeats itself, you will find that these profit making features, too, will become a standard of the industry.

Wouldn't you be wise to work with these "years-ahead" features on your truck mixers — not be forced to work against them in your business?

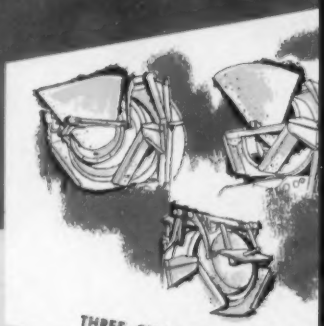
YOU CAN AFFORD THE BEST . . . .

REX ADJUSTA-WATE MOTO-MIXER

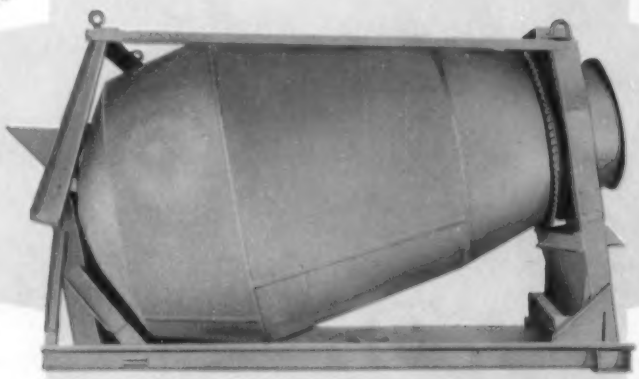
Yes, leadership costs you no more! There is a Rex® Adjusta-Wate to fit your operating needs and your pocketbook. The Adjusta-Wate design principle gives you a basic machine of unequaled quality. Then you select balanced components to suit your requirements . . . water tanks, water entry system, charging equipment and power transmission. You can add additional accessories if you desire. You tailor your mixers to your needs . . . and the price you desire. AND, you get the quality . . . the performance . . . the service you expect from the leader.



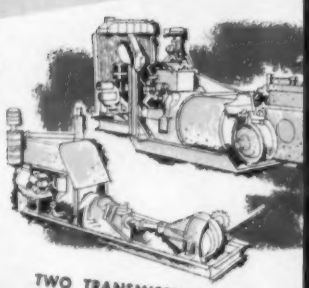
THREE WATER TANK OPTIONS



THREE CHARGING OPTIONS



TWO WATER SYSTEM OPTIONS



TWO TRANSMISSION OPTIONS

and a wide range of accessories

DON'T PENALIZE YOUR PROFITS

Rex® Adjusta-Wate gives you the important three that add up to fastest operation . . . more trips per day.

CONSTRUCTION REX MACHINERY

ADJUSTA-WATE MOTO-MIXERS®

LEADERSHIP . . . THROUGH CREATIVE ENGINEERING

CHAIN BELT COMPANY / 4695 W. Greenfield Ave., Milwaukee 1, Wis.

Litho in U

Pause A Moment Before You Cut That Price

Earl H. Peterson, who took office as president of the National Concrete Masonry Association at the organization's recent annual convention in New Orleans, made a brief but attention-getting reference to the subject of price cutting as he addressed the group for the first time. Mr. Peterson said that in order to obtain the same net profit after making a price cut of only 10 per cent, it is necessary to increase sales by 66 2/3 percent. After a price cut of 20 per cent, sales must be jumped 400 per cent to maintain the same net.

■

Masonry Materials Gain Larger Share of Housing

A survey by the U.S. Bureau of Labor Statistics of new nonfarm dwelling units started in the first quarter of 1955 shows a sharp gain by masonry materials at the expense of wood. In the same period in 1954 masonry construction accounted for only 13.6 per cent of the total starts, in contrast with a 1955 showing of 20.2 per cent. Similar studies by the Housing and Home Finance Agency in 1940 and 1950 showed masonry accounting for only 11 per cent of the total.

Most of the 1954-55 gain for masonry came from the South, where 36.9 per cent of last year's first quarter starts had masonry exterior wall construction, compared with 18.6 per cent in 1954. In the Northeast masonry gained from 7.4 per cent in 1954 to 8.5 per cent in 1955; in the north central region from 12.4 per cent to 13.7 per cent; and in the West it remained virtually unchanged at just over 12 per cent.

■

New Plants and Expansion Programs

Some of the more recent announcements of expansion within the cement industry are:

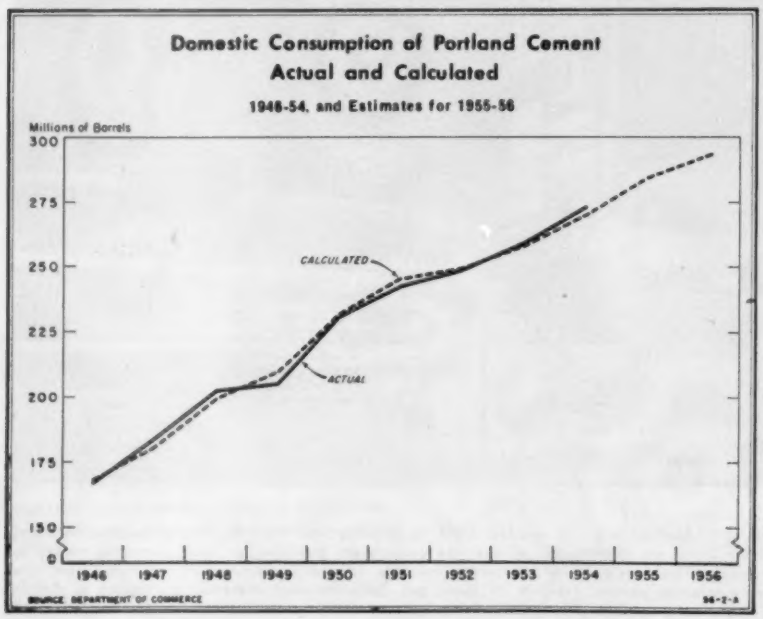
Alpha Portland Cement Company plans an expenditure of approximately $6,860,000 for the expansion of facilities at its St. Louis, Missouri plant.

General Portland Cement Company has announced plans for a $10 million plant 19 miles west of Miami, Florida.

Ideal Cement Company will build a $12 million plant at Ada, Oklahoma instead of expanding and adding to the present unit.

St. Lawrence Cement Company has announced that output of its plant now under construction at Clarkson, near Toronto, will be doubled from the originally planned 6 million to 12 million bags.

Southern Cement Company Division, American-Marietta Company, will increase its capacity by 60 per cent with completion scheduled for early 1957.



Concrete Sponsors Honored For Work at Yucca Flats

In his address before the 36th annual convention of the National Concrete Masonry Association in New Orleans, retiring president S. Carl Smithwick paid tribute to the wisdom and foresight of the five concerns that financed the participation of concrete block and concrete panel structures in last year's atomic blast tests at Yucca Flats, Nevada. The sponsoring firms were Basalt Rock Company, Rocklite Products, and Texas Industries, Inc., representing the block industry, and Buildex, Inc., and Light Weight Aggregates, Inc., both producers of expanded shale and lightweight aggregate.

Representatives of the five concerns received commemorative plaques from NCMA in recognition of their service to the block industry. A. G. Streblow, Elmer A. Peterson, and Cedric Willson represented the three block making firms, and B. F. Park represented one of the producers of expanded shale.

■

Walker Heads Committee on Hot Weather Concreting

The board of directors of the American Concrete Institute has appointed Stanton Walker, director of engineering, National Ready Mixed Concrete Association, chairman of the newly activated Committee 605, Hot Weather Concreting. The committee will review information on the effect of high temperature of fresh concrete on the characteristics of fresh and hardened concrete and develop a recommended practice for handling the ingredients for concrete and mixed concrete during hot weather.

■

Crystal Gazing

• By relating cement shipments to three major segments of construction activity (residential building, nonresidential building, and all other construction), the U. S. Department of Commerce has devised an apparently quite accurate means of estimating the domestic consumption of cement. The graph at the left shows calculated and actual values from 1946 through 1954, and projects calculated values through 1956. The report accompanying the graph states that local shortages will probably persist throughout the current year.

Graduation Day for Mechanics

• Ready-Mix Concrete Company, Indianapolis, Indiana, advocates higher standard of efficiency in truck maintenance and is doing something about achieving this end. Shown above are four of the firm's truck mechanics receiving diplomas after completing a basic maintenance course provided by the White Motor Company. Presenting the diplomas is Maurray Williams, right in the picture, White transportation engineer at Indianapolis. The four mechanics are (from left): Ervin D. Baugh, Harold E. Thompson, William C. Ingram and Frank Page.

American-Marietta Will Launch New Expansion

A $15 million expansion program for American-Marietta Company, largest in the company's history, was approved recently by directors of the firm following the annual stockholders' meeting.

The company's output of concrete pipe, portland cement, and lime will be increased sharply. Facilities at several plants of Standard Lime and Cement Company, a subsidiary, will be expanded for increased lime, dolomite, and magnesite production.

A new unit which will increase the cement capacity of the Southern Cement Company division by 60 per cent will be built at Roberta, Alabama, and is scheduled to be completed early in 1957.

Several American-Marietta concrete products plants will be enlarged to hike output of culvert and drainage pipe for highway construction.

Stockholders elected W. J. Cabaniss, president of Southern Cement, a director of American-Marietta. Robert E. Pflaumer, president, told shareholders profits for the first quarter, which ends February 29, would be at least 50 per cent larger than a year ago.

Concrete Stilts Solve Parking Problem

• Building its 150 rooms atop reinforced concrete stilts enabled this swank hostelry, New Orleans' plush two-million dollar Motel de Ville, to solve a tough parking problem in a mid-town location by providing parking area for its guests between the concrete columns, on the ground level beneath the rooms. Thus the motel achieved the space it needed right in the heart of the city. Motel construction projects all over the country are providing an ever increasing market for both concrete masonry units and ready-mixed concrete. Alert producers of these two basic building materials are taking a definite interest in the trend.

The new STANDARD OF PERFORMANCE

TRANSIT WESTINGHOUSE MIXERS

The new SYMBOL OF BUILT-IN QUALITY

NOW AVAILABLE—the 1956 line of precision-built Westinghouse Transit Mixers, with these *outstanding* features:

- *Exclusive,* patented, fully-enclosed gear drive for the drum—no chains, no exposed gears—less trouble—less maintenance.
- Self-aligning, ball-and-socket front end mounting *at the drum*—an exclusive feature that prevents misalignment of driving parts.
- Double-action mixing drum with deeper mixing blades, plus 6 auxiliary blades that produce a faster, more uniform mix.
- 2-speed transmission that permits perfect control over wide range of drum rotating speeds.
- New, handy swing-away chute for direct discharge into high forms, hoppers and buckets.
- Single drum reversing levers and throttle controls—at each end of the mixer.
- Plenty of power—properly placed, completely controlled, efficiently applied; Power-Take-Off, optional, available on all models.

Compare WESTINGHOUSE TRANSIT MIXERS—feature for feature—and you'll buy the new STANDARD OF MIXER PERFORMANCE!

• • •

WESTINGHOUSE TRANSIT MIXER DIVISION
LeTourneau-Westinghouse Co.
INDIANAPOLIS • INDIANA

Get the complete story on the 1956 line of Westinghouse Transit Mixers, available in five sizes from 4½ to 6½ cubic yards. Write for Bulletin 256.

CLIP AND MAIL COUPON TODAY . . .

Westinghouse Transit Mixer Division,
LeTourneau-Westinghouse Co., Indianapolis, Indiana
Please send free illustrated booklet on the new Westinghouse Transit Mixer.

Name.....
(PLEASE PRINT)
Company.....
Address.....
City.....Zone.....State.....

C-563

Sales CLINIC

by Joseph N. Bell

Having Wonderful Time

Several companies have recently come up with a provocative public relations tool for their salesmen — the individualized post card. Inevitably your customers symbolize your company in the salesman who deals with them. When he's out of circulation for awhile, relationships are apt to backslide — sometimes even to the extent of losing the customer. The personalized postcard is being used to circumvent this. If the salesman is ill, taking an extended vacation, or out of the city on a business trip that causes him to miss his regular customer rounds, the company mails individually signed (by the salesman, in advance) postcards to his customers explaining why he's out of circulation and how soon he'll be back. These same individualized cards are also used occasionally (and only occasionally, or the impact is lost) for promotional mailings, again over the signature of the individual salesman.

Leeches At Work

The small businessman constantly has to be on the lookout for leeches who are out to make a fast buck at his expense. This sort of operation lends itself especially well to the fields of advertising, public relations and sales promotion — and there are a couple of real dandy little rackets in these areas that you may be faced with some day.

Probably the most insidious—and the most general—is the puff sheet gambit. It works like this:

You get a phone call from a smooth talker who says he is one of the editors of a local publication you've never heard of. But, because it is local and you have at least a smattering of respect for the press, and because you realize that there may likely be publications in your own area with which you aren't familiar, you listen. The voice on the other end tells you:

"We're running a special story on your organization next week. I'd like to read it to you to see if it meets your approval."

Naturally you are interested and tell him to go ahead. What follows are several paragraphs of pap about what a great and wonderful organization you operate, that the city would probably collapse tomorrow if you were suddenly to go out of business, and that you—personally—are not only a gentleman, scholar and prince of industry but one of the greatest benefactors of mankind ever to settle in these parts. At first blush it hits you as pretty strong stuff, but after all it's their newspaper and if they want to say all those nice things about you, that's their business. You tell them so. Then comes the hooker.

"It's okay with you, then, Mr. Jones if we run this?" the voice asks.

And you say, "Sure, go ahead."

A few weeks later, you get a nondescript looking tear sheet from a tabloid sized newspaper which is probably distributed free-of-charge in a two block neighborhood area. The tear sheet contains the "puff" for your business. And with it is a bill for paid advertising. A variation of the puff sheet racket is to withold a bill for advertising but instead to hound you to buy reprints of the article. Either way you lose.

There are many other modest little con games going on with small businessmen on the sucker end of the bait. Right now the directory racket is thriving. The gambit here is to send an invoice for a directory listing, which requests the recipient to make any necessary corrections on a printed listing attached to the invoice and return the whole thing with a check for the new listing. Even though the victim has seldom heard of the directory, his tendency is to pay up and return the corrected copy on the theory that if he thought it was worthwhile last year, it must still be okay — and what's a few bucks, anyway? The trouble is, he had authorized no such listing the year before. It was included *with the compliments of the publisher* — which is mentioned in very small print on the invoice. Usually the directory is of little or no value, and the people who fall for this gentle grift have been taken.

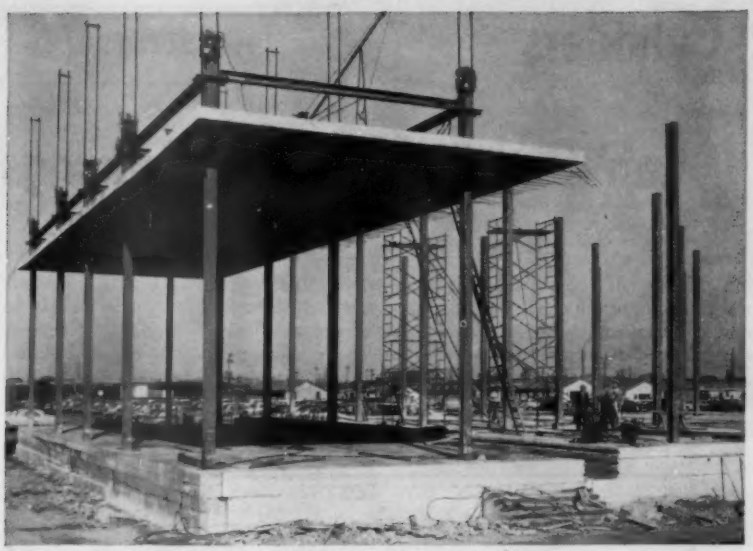
Charitable promotions are another place where businessmen are always getting it in the neck. Because a few charities are 100 per cent legitimate and worthwhile, dozens of others climb on their coat-tails for a profitable ride. And even when you contribute to some of the legitimate charities, you're oftentimes giving your money to the promoters instead of the charity. In such instances — as well as puff sheet and directory requests — it's always a good idea to check with your local Chamber of Commerce or Better Business Bureau. You can also protect yourself from phone solicitors by simply suggesting that they put the proposition in a letter, along with some indication of the people behind it. That usually stops 'em cold.

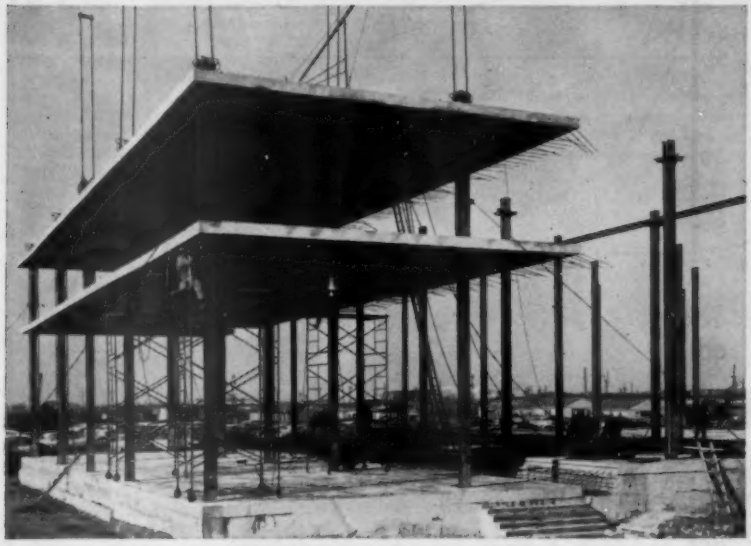
Envelope Selling

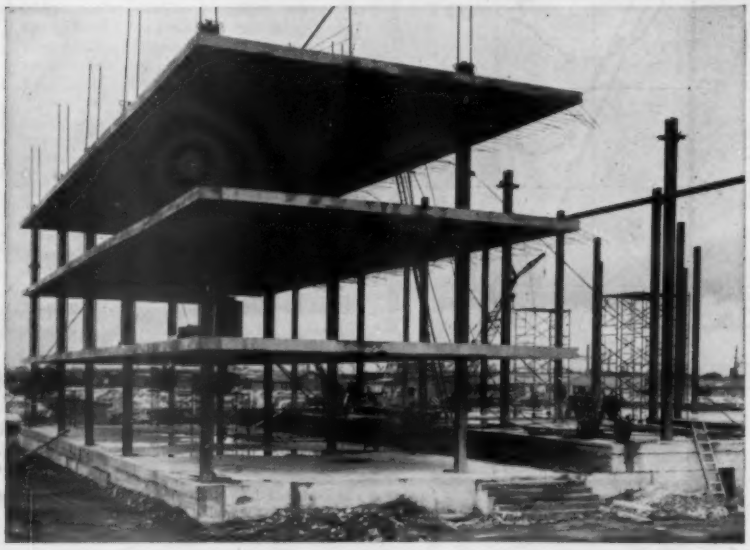
Businessmen are discovering sales promotion potential in a rather mundane item — the humble envelope. Two phenomena in modern-day living have prompted this: the competition for space and attention in mailboxes these days, and the single-minded determination of many businessmen not to let any possible surface go unused which might carry a sales message. Then, too, the "sell off the envelope" idea is gaining momentum through the development of many new advertising and sales promotion angles.

Splashy color, provocative pictures, dolled-up windows, and even order blanks are appearing on envelopes these days — possible harbingers of the day when we won't have to bother writing a letter at all. A speaker at a recent meeting of the Advertising Federation of America gave some dramatic illustrations of successful envelope selling. He told, for example, of a Baptist church — sponsoring a 30-minute radio program — which switched from a brown Kraft mailing envelope printed in black to a "heavenly" blue. An immediate 15 per cent increase in response resulted.

Business envelopes are an often-neglected medium for conveying an impression to outsiders. Whether or not you may be addicted to "heavenly blue" or the more garish forms of envelope decoration, the fact remains that even a quality stock of paper and well-designed printing convey a very definite impression of your organization. The stationery salesman who serves you will help in suggesting envelopes that can be a definite sales or public relations asset to your business.







Goes up 20% faster this way

To erect a new 370,000 sq. ft. office building for the manufacturing divisions at Ford Motor Company's Rouge plant, in Dearborn, Mich., Long Construction Company of Kansas City used the lift slab method shown here.

The double "T" shaped building was divided into 28 "lift sections". Reinforced concrete slabs for the roof and floors of each lift section were then poured in one form at ground level. A sprayed-on resinous film kept the slabs separated and steel collars were embedded in their concrete around the supporting columns.

When hardened, the 400-ton slabs were raised in sequence, at about 4' per hour, by hydraulic jacks atop the columns. Welding the embedded steel collars to the columns then fixed each of the slabs in place.

The builders estimate more than 20% saving in construction time by this method. One great advantage is the economy of pouring all slabs at ground level, using mobile truck mixers of certified design, capacity, mixing speed and accuracy of water control.

You have a right to insist on this Rating Plate. It certifies compliance with the high industry standards maintained for your protection by the Truck Mixer Manufacturers Bureau.

BLAW-KNOX CONSTRUCTION EQUIPMENT DIV.
Mattoon, Ill.

CHAIN BELT COMPANY
Milwaukee, Wis. and Los Angeles, Calif.

CHALLENGE MANUFACTURING CO.
Los Angeles, Calif.

CONCRETE TRANSPORT MIXER CO.
St. Louis, Mo.

CONSTRUCTION MACHINERY CO.
Waterloo, Iowa

THE JAEGER MACHINE COMPANY
Columbus, Ohio

THE T. L. SMITH COMPANY
Milwaukee, Wis.

WILLARD CONCRETE MACHINERY CO., LTD.
Lynwood, Calif.

WORTHINGTON CORPORATION
Plainfield, N. J.

Treatment of Test Cylinders

Can Reduce Strength Findings

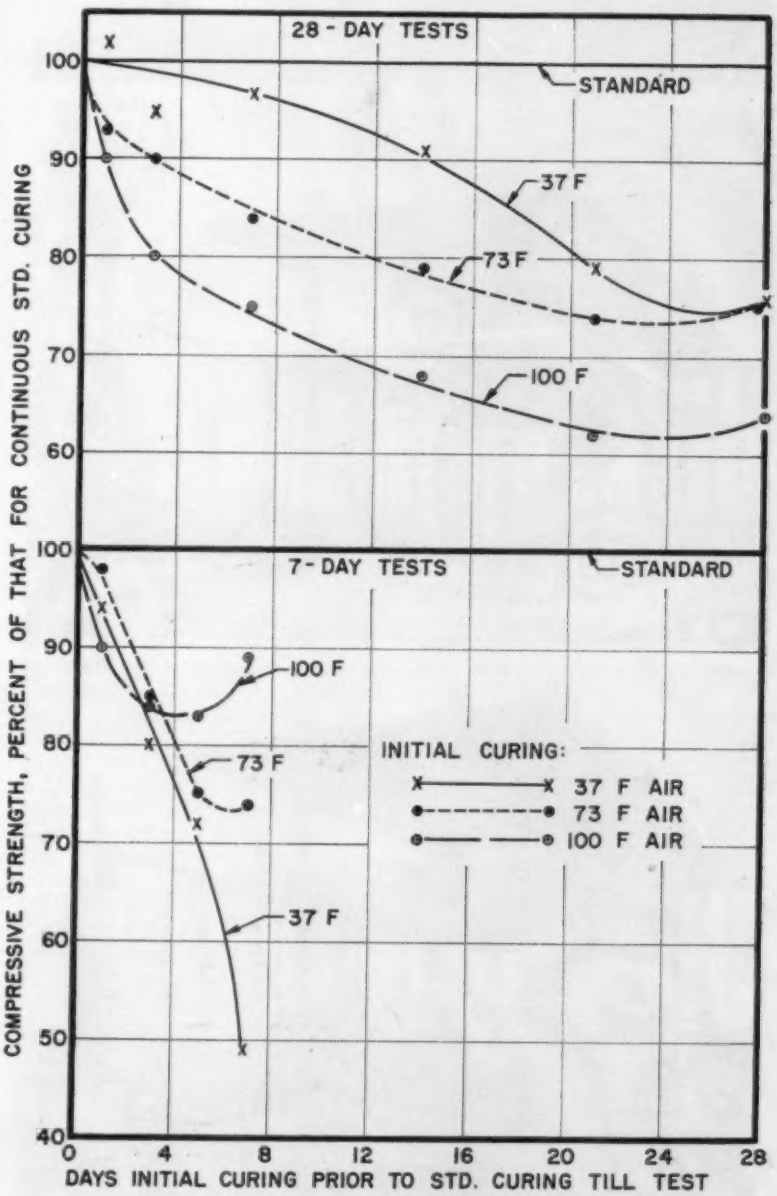
THE National Ready Mix Concrete Association is conducting studies at its laboratory to determine the effects of non-standard treatment of test cylinders on the measured compressive strength of concrete. Of particular interest to ready-mix producers who furnish concrete under strength specifications are the findings presented in the accompanying graph. The curves slow the effects on 7- and 28-day strengths of exposing cylinders to non-standard conditions of temperatures and moisture for various periods. Strengths for the different conditions have been expressed as percentages of the strength produced by standard curing, shown as 100 per cent on the diagrams.

A single class of concrete was used for the tests, typical of the average ready-mixed concrete employed in building construction. It contains 5½ sacks of cement per cubic yard and had a slump of 3 to 4 inches. Aggregates were natural silica bank sand having a fineness of about 2.6 and minus 1-inch quartz gravel.

The curves show that cylinders exposed to air at 73 deg. F. for only 3 days before being transferred to laboratory moist curing suffered a 10 per cent loss in strength. As the period of non-standard curing increased, the loss became progressively greater, attaining the maximum of over 25 per cent for specimens exposed for 21 days.

In reporting these findings to members of the Association, D. L. Bloem, assistant director of engineering, points out that specimens left out for the full 28 days were stronger than those exposed only 21 days because the former were tested dry, while the latter were wet from their 7-day period of moist curing. He infers from this that the advantage of being tested dry was greater than the benefit of the belated 7 days in the moist room.

Mr. Bloem has this to say in conclusion: "The data demonstrates conclusively how non-standard treatment of concrete cylinders can jeopardize the concrete producer even though the concrete being furnished is of more than adequate quality. Seemingly minor infractions of standard requirements can easily reduce measured strength by as much as 20 to 30 per cent. More flagrant violations, such as the not uncommon practice of job-curing specimens used to evaluate the quality of the concrete, can reduce the measured strength as much as 50 per cent or more. The concrete producer should make every effort to insure that strength tests to determine conformance with specification requirements are made strictly in accordance with standard practices. That applies not only to curing but also to sampling, molding, capping and testing."



LETTERS

Answers to P.H.S.

In last December's issue of CONCRETE (Letters to the Editor, page 36) we printed the following letter from a reader in India, under the heading "Readers Please Help":

We would be grateful if you could give us some suggestion or guidance for solving a problem. We wish to introduce in our country 2-inch thick concrete partition slabs in sizes of 18 inches by 12 inches or 24 inches by 12 inches, preferably the former size. These blocks should not be hollow. Since they are to compete against brick, they should be inexpensive.

We have found that no-fines slabs made in the ratio of 1:8, with proper water ratio, are good. However, casting them by hand in molds and allowing them to remain flat in molds and undisturbed for 24 to 36 hours, makes the proposition commercially uneconomical, even though labor in our country costs only 1 U.S. dollar per day. Besides, this method of casting would need considerable floor space.

We repeatedly see in your journal advertisements for concrete block-making machinery, but they are all hollow blocks, and of greater density than no-fines blocks would be. Of course we would prefer to use such lightweight material as pumice aggregate, but this is not available in India.

We shall therefore be obliged if you can help us in devising a method for quicker casting and earlier removal of these slabs or blocks. Incidentally we may state that we make concrete block and slabs from whole rice husks. These blocks are very successful as lightweight building and insulating material. These also have to be cast by hand and allowed to remain untouched for 24 to 36 hours, to prevent cracks, etc. The product itself is successful, but as our people have an innate prejudice against the use of rice husks or cinders, clinkers, etc. as an aggregate, we want to introduce the no-fines block. —P.H.S.

Evidencing the spirit of give and take which is one of the most appealing aspects of the concrete products field, several readers sent in rather detailed solutions. Because of the possibility that others may share the same interest in the problem as the gentleman from India, we are reprinting herewith two of the suggested solutions.

The first comes from William J. Shore of Shore Engineering, 320 Broadway, New York, New York. Mr. Shore writes as follows:

This brief analysis and solution of the problem submitted recently to CONCRETE, may be of help in the manufacture of slabs as described. Wooden box forms should be made in the approximate shape and dimensions shown in the accompanying sketch. Center partitions may be fabricated of 5/16-inch plate. When empty and ready for use, this form should be rolled in front of the mixer (the mixer should be on a platform) where the mix can be poured directly from the mixer into the mold. If no mixer is used, then the mix can be shovelled in. After filling level with the top, the form containing the concrete should be rolled onto a vibrating platform and allowed to remain there for about 15 minutes. After this it should be rolled into a steam curing room.

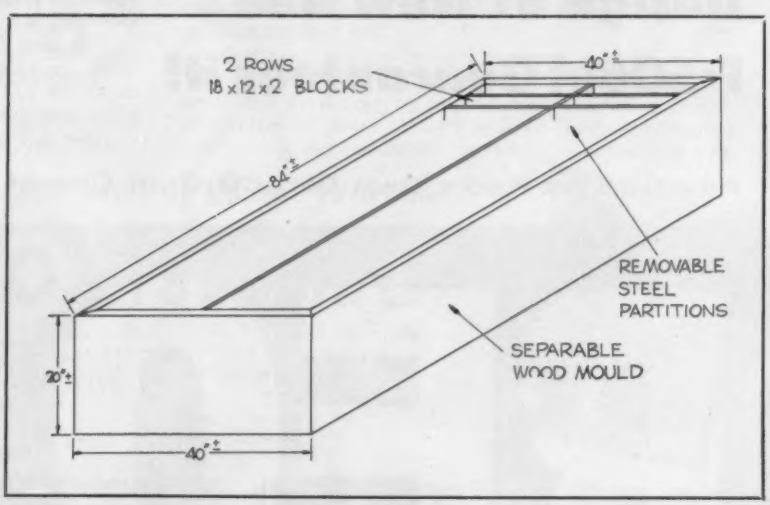
The slabs may be removed after 8 hours treatment with steam, for they can then be handled. Twenty four hours, (that is, overnight) is better. With this construction one form is required for every 72 slabs made per day. Storage space for molds with slabs about to be cured is slightly over four tenths of a square foot per slab.

For a production of 2,000 18- by 12- by 2-inch slabs per 8-hour day, it will suffice to have a curing room that is 8 feet wide by 7 feet high by 100 feet long. With this set up two men alone can produce 1200 slabs per day without undue effort.

Our other informant is R. H. Baumgarten, of Baumgarten & Angles, 13 Chartfield Avenue, London, S.W. 15, England. Mr. Baumgarten has this to say:

(*Turn to page* 44)

• RIGHT: This German-made machine produces 23 partition slabs at a time, depositing them on edge on a concrete platform. BELOW: Part of a day's output of the machine.



• Drawing of the wooden box mold recommended by one reader for casting solid partition slabs.

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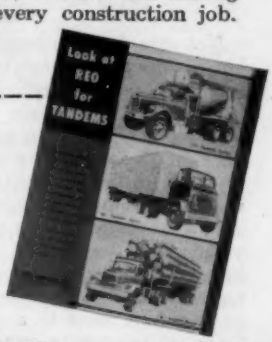

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INSTRUMENTATION IN BLOCK PLANTS

By MORRIS H. GROSS

TWO instruments which are always important where considerable electrical equipment is in use are voltmeters and ammeters. These, therefore, should be regarded as absolutely essential in block plants. The voltmeter is used for measuring the electrical potential in any part of an electrical circuit. All electric equipment is rated by the manufacturer to perform in a specified manner at a definitely designated voltage.

As an example: A motor rated at 5 hp., 110 volt, single phase, 60 cycle, a.c. will normally deliver 5 horse powers of work when connected to a 110 volt, 60 cycle, a.c. circuit — but suppose that the voltage at the motor terminals is only 100 volts. If one considers the torque at 110 volts as unity, the torque of the same motor (having an input of only 100 volts) has dropped in proportion to the square of the ratio of the impressed voltage to the normal voltage; or to 82.8 per cent instead of the 100 per cent capacity called for by the manufacturer's rating.

Not only does the torque decrease, but usually the current in the motor increases, and the result is overheating. Motors are usually guaranteed by the manufacturer to operate at 10 per cent above or below normal voltage. Normally, no voltage trouble need be anticipated from a motor that is in a fixed, permanent position and wired by a competent electrician; but too often a plant operator will tap in on an existing circuit and run an extension cord to a point where he wants to operate some new piece of machinery, or even an extra set of lights, without taking into consideration the already existing load on that circuit or the length and size of the extension cord used.

The result is an increased load which will cause a considerable voltage drop on the line. This may materially decrease the voltage available at the terminals of other equipment connected to the same circuit. This means decreased power all along the line, and overheating of all motors, with the further risk that one or more of them may burn out.

The ammeter is used to measure the current flowing in the circuit. An overload placed on the motor will result in an increased current reading. This overload may be a result of an actual physical overload, or may be due to dust, dirt, and grit getting in between the windings of the motor. Since not all motors used around a block plant are dust-proof, one can readily see that dust and dirt can easily lodge in the windings of unprotected motors. It is a very simple matter to periodically take a voltmeter and ammeter reading of the motors around a plant and compare them with the data on the name plate. By doing so, the plant operator can determine if the motor is operating under designed conditions. If it is not, provision should be made to correct the fault during the normal shut-down period of the machine, so that trouble will not develop when the plant is in production.

If the ammeter reading is below the figure stamped on the name plate or the current reading established when the new motor is first placed in service, it means that the physical load on the motor has decreased. This may be due to belt slippage or to worn belts, or to a physical decrease in the work for which the motor is being used. If the work is the same, it would then be advisable to check the driven piece of apparatus to see if it is up to the correct speed, or to see if all the belts have the proper tension.

If the ammeter reading is above the established current reading, it would be advisable, among other things, to check all bearings in connection with the load that the motor is drawing, as well as belt tension or dirt and dust in the motor windings. An induction type of ammeter is the proper type of instrument to use as it permits a current reading to be taken without breaking into the circuit or shutting down the motor being analyzed. This permits one to take a reading under actual operating condition, with the machinery in full operation.

Voltmeter and ammeter readings can be taken on any motor while the motor is in operation, and will not interfere with the production of the plant in any way.

Stack Alarm

The stack alarm is a signal device, or a temperature operated switch controller, which is usually connected in such a manner as to close an electrical circuit on a rising temperature, thus causing an alarm bell to ring. In boiler rooms where a fireman is not in constant attendance, such an alarm ringing in the block shop or repair shop acts as a warning that something has gone wrong with the stack temperature and immediate attention is necessary.

There can be any number of reasons why the stack temperature might

exceed a predetermined point. This type of alarm sounds off when the temperature passes a predetermined level. Immediate attention usually prevents serious damage, particularly to the boiler. In the case of an automatic fired boiler, the stack alarm indicator can be set to shut off the firing mechanism. The mere fact that the alarm sounds is a good reason also to check the efficiency at which the boiler was fired originally. This can change due to a change in fuel, a change in fuel-air mixture, or as a result of the accumulation of soot or scale deposits.

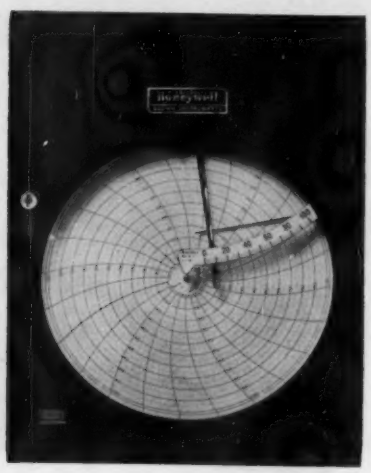
Thermometers

The uses of thermometers in concrete product plants are as many and as varied as the types of thermometers themselves. Stack temperatures, for instance, as already pointed out, are important. A special thermometer for measuring stack temperature should have a scale in the range of 900 degrees F. This type of instrument will enable the operator to accurately take the temperature of the flue gases in the stack. This reading is a most important indication of the combustion efficiency at which a boiler is operating. This thermometer may be a remote indicating type, permanently installed in the breeching of the boiler, or the conventional type of insert thermometer, which is held in place until it has reached its maximum temperature.

Maximum registering thermometers are equally important and useful. This is a type so designed that the reading recorded gives the operator a true indication of the highest temperature reached throughout a complete cycle of heat induction. The reading may be of the temperature of the air in a kilm, for instance, or could be the actual temperature of the material of which the product is made, provided that the thermometer is imbedded in the material.

In the case of curing blocks, this type can be placed in various parts of the kiln or in the block, and the operator will always be able to determine accurately the variation in air temperature (or aggregate temperature) throughout the length, breadth, and depth of the kiln. Conditions recorded will inform the operator exactly whether or not the block have been subjected to uniform curing temperatures. Also the operator will know by a mere glance at the maximum recorder the exact temperature of the block with relation to the temperature of the air surrounding the block. (A maximum registering thermometer with a steel point should be used to measure temperatures within a block.)

The importance of knowing these temperatures will be readily recognized by those who have made a careful study of general curing conditions with a view to improving this all-too-frequently neglected step in the production of quality block.



• LEFT ABOVE: Excess temperature high limit controller, which can be used to actuate alarm and shut off fuel supply to burner in case of excessive stack temperature. LEFT BELOW: Remote bulb indicating thermometer. BELOW: Recording, indicating and integrating flow meter.

Temperature Indicator Controllers

In the live steam curing of concrete products, too many plant operators have arbitrarily assumed a steaming time of a predetermined period for their plants without realizing that day-to-day, and even hour-to-hour conditions vary over a considerable range, and that a steaming time, say, of two hours will in one case raise the temperature of the kiln to 160 degrees while in another case the same steaming time may raise the temperature to 190 degrees. This does not lead to uniform curing conditions, and in the majority of cases it results in a waste of steam, which means a waste of money. Therefore it is most important that a remote type of temperature indicator, or temperature indicator controller, should be used to let operators know when the predetermined curing temperature that has been established for any given plant has been reached. The temperature indicator may be visual, or it may control an alarm bell or light to notify the person in charge of curing that the designated temperature has been reached, and that it is time to turn off the steam.

Flow Meter

Flow meters are instruments used to measure the volume of gases and liquids flowing in a line. A flow meter can be used around a block plant to determine whether the equipment is generating and delivering the capacity that is expected.

In the line of steam generation, the installation of a flow meter can instantly determine if the boiler is delivering its rated capacity. It is quite possible that although the combustion efficiency of a boiler is high, the output may be well below the rated capacity of the boiler. By using a flow meter and establishing the constants for a particular installation, the volume of steam in the case of a boiler, or air in the case of a compressor installation, or water in the case of water lines, can be accurately determined.

Flow meters can be of the indicating, recording, or the integrating type. The recording and the integrat-

ing type provide limits of accuracy far beyond the needs of a block plant, and they are very delicate and expensive instruments. The indicating type gives excellent results and is comparatively inexpensive.

Water Feeders and Cut-Offs

All boilers should be protected with an automatic water feeder, regardless of whether they are hand-fired or mechanically fired. The automatic water feeder is an apparatus designed to permit the flow of water into a boiler so as to maintain a constant water level within certain specified ranges. If the water content of a boiler is below the level set by the boiler manufacturer, serious injury can result to the boiler.

In the case of automatic fired equipment, a low water cut-off should be placed on the boiler as well as the automatic feeder. The low water cut-off is a float operated control, and if the level of the water falls below a set point, the control circuit will be opened and shut off the firing apparatus. Most low water cut-off controls are equipped with an alarm circuit so that when the water level drops, an alarm will ring at the same time that the firing apparatus circuit is broken.

In an industrial plant it is good practice to check the operation of a low water cut-off daily. This takes only about thirty-seconds, and is nothing more than good boiler room practice.

Water Analysis and Water Treatment

The principal objective of industrial water conditioning is to provide a water that is neither scale-forming or corrosive under the condition of its use, and thus protect equipment and eliminate costly repairs.

It is most essential that a company making a specialty of this subject be called in, since the water conditions vary not only in every part of the country, but even in the same city. Water treatment depends entirely upon the use to which a boiler is being subjected. A small analyzing kit is available almost anywhere. Upon proper instruction, any plant operator can intelligently use this kit to analyze the water conditions existing in his particular plant.

Potentiometers

Potentiometers are high grade and quite technical devices that will indicate and/or record temperatures. They are rather expensive instruments. The recording type provides a permanent record of what has happened during any part of the heating cycle. However, to be of practical every-day use, even this type requires the constant attention of qualified personnel to take readings and interpret them. The recording potentiometer is invaluable in experimental work, since it gives the experimenter a permanent record of what he has done during any portion of a heating cycle.

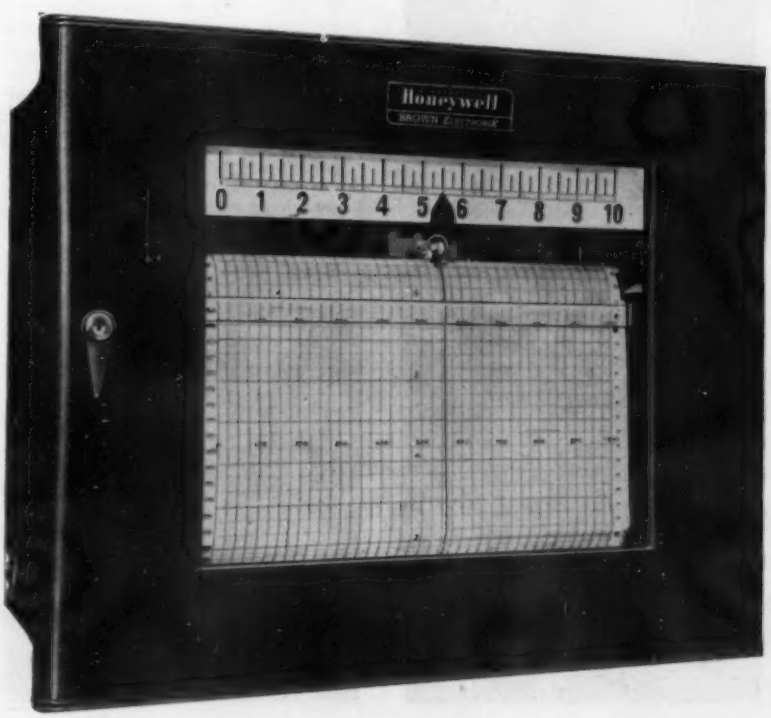
Carbon Dioxide Analyses

Fuel bills, especially in view of present day costs of most types of fuel, are among those operating expenses that remain month after month, a source of irritation to every plant owner. If every plant superintendent would make intelligent use of a CO_2 analyzer, and, on an average of once a day, would analyze the flue gases in the stack or stacks of the plant, real economy could be achieved. The CO_2 analyzer measures the carbon dioxide, carbon monoxide, and oxygen in the products of combustion. Such measurements (or percentages, as they are more frequently called, together with the stack temperature readings, make it possible to determine the combustion efficiency of the boiler.

A slight variation in the correct fuel-air ratio can cause a considerable change in the combustion efficiency. A poor efficiency means a loss of fuel and therefore, in turn a loss of money. Since it is quite possible that the fuel-air ratio can vary considerably over a wide range, due to temperature and weather conditions alone, the importance of an instrument to measure the combustion efficiency can be readily appreciated.

As an example, if oil is the source of fuel, a stack temperature of 500 degrees and a CO_2 reading of 8 per cent represents a combustion efficiency of 75.5 per cent. If on the same boiler the stack temperature rose to 525 degrees, and the CO_2 percentage dropped to 6 per cent, the combustion efficiency drops to a point as low as 68.5 per cent. This means that over 30 per cent of the fuel is being wasted.

To look at it another way, if the stack temperature was reduced to about 425 degrees and at the same time the CO_2 reading was increased to 10 per cent, the combustion efficiency would show the high figure of 80.5 per cent. This approximates a boiler efficiency which is considered the ultimate. While the percentages seem small, it must be remembered that besides decreasing the fuel bill



• Electronic strip chart recording potentiometer.

proportionately, these higher efficiencies mean an increase in the boiler horsepower available for useful work.

The efficiency range is even greater with coal as a fuel. For example 500 degrees stack temperature and 8 per cent CO_2 results in a boiler efficiency of only 71.5 per cent, while increasing stack temperature to 525 degrees and dropping CO_2 to 6 per cent decreases over-all efficiency to as little as 60 per cent. By reducing stack temperature to 475 degrees and bringing CO_2 up to 10 per cent, we jump up to 78.5 per cent efficiency, nearly as good as the average boiler can do with coal for fuel.

In the average block plant an analyzer measuring only CO_2 is necessary. The measurements of carbon monoxide and oxygen are only important for more exact determinations and fuel analysis.

Tachometers

In almost every plant where concrete products are manufactured the production of the finished product depends upon rotating machinery of some shape or style. A method of measuring the speed of rotation of any mass around its axis can be determined by use of the tachometer.

Power is furnished to the machinery either by direct connected motors or by belt connected drives. A positive method of determining whether or not the equipment is operating at its designed speed is important. A tachometer will provide the necessary readings. It will show the actual revolutions per minute of the motor, which can be checked against the manufacturer's rating. If a gear reduction piece of equipment is in use, the operator can quickly determine the gear ratio. If a belt drive is in operation, the tachometer will measure the pulley diameters in relation to their proper ratio, and will also indicate if there is any slippage in the belt connections.

Tachometers are either indicating or accumulative. The indicating type will indicate the revolutions that the rotating piece of apparatus is making in a given unit of time. The recording type of tachometer records the number of revolutions that have been made in a given period of time, and requires careful timing in connection with its use. The tachometer is most valuable in synchronizing two or more pieces of rotating equipment which are causing vibrations. In order to make sure that the planes of vibration do not interfere with each other, or that the density of the aggregate under the vibration is the same in all cases, the tachometer is practically indispensable. Variations of as much as 600 rpm have been found in the speed of the vibrating motors on block machines, causing units to be lower on one side than on the other.

Pressure Reculating Valves

Because of the difference in size, length of run, and variations of the impressed load, it has become increasingly important to have pressure reducing or pressure regulating valves on all pipe lines carrying air, steam or water. Since the friction loss and pressure drop, which is wasted energy, varies as the square of the flow, some provision for pressure regulation is essential if, for example, air-operated equipment is to work just as effectively 10 feet from an air compressor as at 100 feet.

Pressure reducing valves inserted in the lines at the point where the air is going to do its work will, when set at the pressure desired, operate the equipment under designed conditions regardless of its location. It will also make it possible to operate pieces of equipment under different loading conditions, all from the same source of supply, and allow a plant that has 2, 3, or 4 air compressors to be tied into a common central compressed air system. This makes it possible to utilize air compressors in such a manner as to have air always available for work. Should one machine fail, the others are already on the line to carry the load without shut-down time.

Pressure reducing valves are also important in controlling the flow of water used for various purposes around a plant. If, for example, there is a continuous mixer in the plant, a pressure reducing valve is most important. The amount of water coming out of a given size nozzle, under certain set conditions, is entirely a function of the pressure in back of the nozzle. This pressure, unless controlled, will vary over a very wide range, depending upon what other apparatus is using water at the same time.

• Indicating millivoltmeter used in conjunction with tachometer generator for speed measurement.

A good many block producers have been concerned over the gradual shrinkage of the market for their product in residential foundation work. An interesting approach to the problem of reversing this trend was proposed at the recent NCMA convention. It's a . . .

NEW UNIT THAT CUTS IN-THE-WALL COSTS

By PHILLIP PAOLELLA
Plasticrete Corporation
Hamden, Connecticut

The use of concrete block for basement walls in residential construction is an old story. The first large market for the block industry was for residential foundations, and in many parts of the country this still accounts for the bulk of the business.

In some areas, however, the block industry has lost much of this volume market. This change has come about by way of a natural evolutionary process which it might be interesting to review briefly.

Twenty-five years ago, and even as recently as fifteen years ago, building tradesmen were plentiful, and the cost of building foundation walls of stone was reasonable and acceptable. As labor costs, however, began to increase, the cost of stone foundation walls became higher and higher. When block were introduced for the same type of work, much less labor was required and consequently foundation walls could be built at lower cost. Since block walls were hollow, they offered the additional advantage of reducing condensation and dampness.

During the last decade or so, however, poured concrete basement walls have gained favor. At first the cost of poured walls was quite high, for much labor was required for building the forms. It was not too long, however, before prefabricated forms came into use, and today form construction in either metal or wood is rapid and economical. With skilled masons becoming scarce and labor costs correspondingly increasing, it is now a fact that foundation walls can be built of poured concrete at a lower cost than with concrete block, whenever large projects having numbers of similar foundations are involved.

Throughout the 40's, as much as 50 per cent of Plasticrete's production was for the residential founda-

• LEFT: Two walls built with Plasticrete's new units are shown here under test to determine their resistance to hydraulic pressure. Wall at the left consists of 8-inch units, the one on the right of 12-inch units.

BELOW: A section of the 8-inch wall after failure had occurred.

tion market. When our foundation business started downhill we began trying to find some means of restoring our product to a more favorable competitive position.

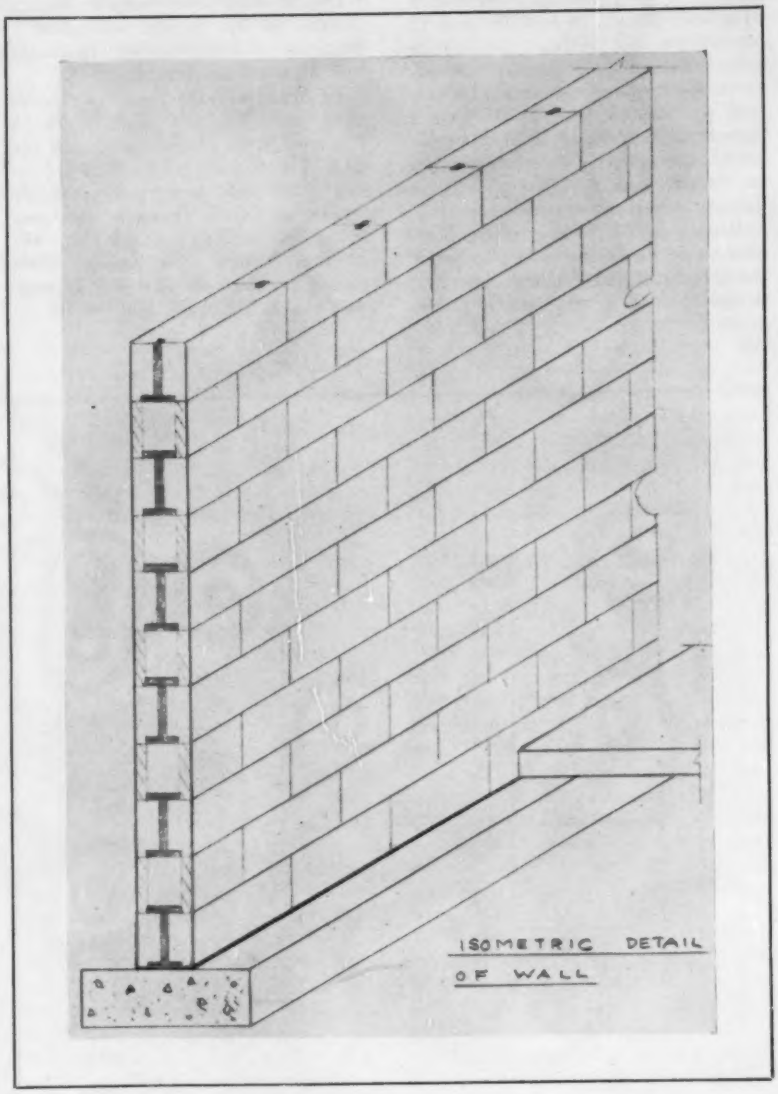
About two years ago, the United Research and Development Corporation of New Britain, Connecticut, began to participate with our company in a study of the problem. As a result of our joint efforts, we think we have developed a wall design that will permit us to compete satisfactorily with poured concrete walls.

We have chosen to call this wall design Groutwall. The unit we are presently working with measures 8 by 8 by 16 inches. There is no reason, however, why the design cannot also be applied to 10- or 12-inch units as well. The Groutwall unit is a three-core, hollow block with a solid top and an open channel on the bottom (see sketch). It can be made of either lightweight or heavyweight aggregate. Our regular 8-inch cinder block weighs 30 pounds, and the 8-inch Groutwall block weighs 36 pounds. After the block are made, they are ground on a dual-wheel horizontal grinding machine. This results in a precision unit that has an absolutely parallel top and bottom, accurate to within 5,000ths of an inch.

As the accompanying isometric drawing shows, the first course of block is laid in conventional mortar. This first course should be keyed by having the basement floor slabs butting against the first course, or a 2-inch key can be provided when the footing is placed. As the first course of block is being laid, it is necessary for the mason to lay each individual block level, using his leveling tool in both directions. Immediately after the first course is laid in mortar, all subsequent courses are laid without any mortar whatsoever. Since the block have been ground, each unit is a true parallelogram. If the first course was laid true, each of the other courses must also be laid true. Similarly, of course, if the mason should carelessly permit the first course to be pitched inward or outward, the remaining courses will also lean.

Immediately after the laying of the second course, a very wet cement grout of a 1-3 cement, sand consistency with approximately 10 gallons of water per sack, is poured into the end vertical grooves of the block. In actual practice, this grout is poured in every third or fourth block if a pail is used. If a ladle type trowel is used, such a trowel holds enough grout for one block. The grout is poured for each course so that the continuity is as follows: the first course is laid in mortar; the second course is laid dry and then grouted; then the third course is laid dry and grouted and so on. It is quite possible to pour enough grout so that the grout will fill the bottom channel and then begin to fill the hollow portion of the block. The only grout that is required is an amount sufficient to fill the channel. Anymore is wasteful and costly. It is for this reason that each course is grouted separately. Then by the time the last block in each course is laid, the grout in the preceding course has set sufficiently so that it cannot flow up into the hollow cores as fresh grout is poured from above.

At window jambs the solid portion nearest to the jamb is pierced with a hammer and the entire core space is filled with grout. Similarly when the last course is laid (that is, the course that is to hold the anchor bolts for the sill plate), the solid portion over the cores of all the block is pierced or broken with a hammer and filled solid with concrete. Anchor bolts can then be placed wherever they are required.



• This isometric drawing shows how the first course of block is laid in conventional mortar. Subsequent courses are laid without mortar, but a cement grout is poured into the end vertical grooves of every third or fourth unit.

Subsequent to the erection of the wall, the inside of the basement can either be finished with a cement washcoat or a parge coat. The exterior, of course, must be waterproofed with a cement parge coat or a bituminous asphalt coat, or both, depending upon the ground conditions.

It is clear that such a wall is not as attractive as a conventional block wall laid with well tooled mortar joints. It is simply a sound structural masonry wall that will compete with a sound structural poured concrete wall.

The two most important factors in such a wall are the economics and its structural values. Broadly speaking, 12-inch masonry walls in our area cost between $.60 and $.70 per square foot. Poured concrete foundation walls are poured for a cost of $.50 to $.60 per square foot without parging or waterproofing. The 8-inch Groutwall design costs $.45 to $.55 per square foot without parging or waterproofing. Even against the stiffest competition, we can save a builder $.05 per square foot, or $50 on a basement, containing approximately 1,000 square feet. While this is not an imposing figure, we are again finding ourselves competitive.

Regardless of the economics, however, it is always necessary to prove the structural value of any new wall design before a responsible public building official at the local, state or national level will permit its use. As many of you have found, the building inspector, the FHA official, and the VA official, are the authorities that accept or reject wall designs.

In order to determine this factor for our own information, as well as for the benefit of public officials, we decided to build a test wall that would conform as near as possible to a wall in actual use. Since backfilling a wall with earth involves variations due to differences in the density and moisture content of the fill, we decided to backfill with water. Accordingly, a water tank 8 feet high, 24 feet long and 4 feet wide was built of Groutwall units. The 4-foot width was chosen so that a man could work inside the tank. The 8-foot height was selected because most residential walls are under this dimension. By making the wall 24 feet long we were able to test an 8-inch wall with an 8-inch pilaster in the middle and thereby simulate a conventional basement wall as much as possible.

In order to save time, two tanks were built. Two test panels, each 24 feet long, were placed up against the tank. The footing had a 2-inch deep key. The ends were restrained by means of 6-inch channels anchored to the rear walls of the tank by means of four 1-inch rods and channels placed on the opposite end as well. As soon as the walls had set for 28 days or more, we arranged with the chief of the local fire department to fill the water tanks with water. In most cases it took about a half hour to fill the tanks.

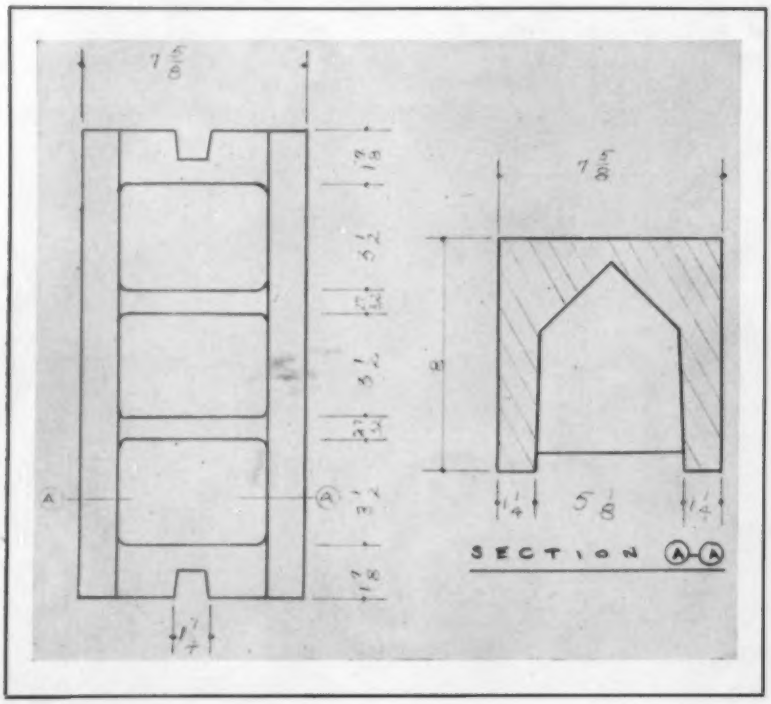
We estimate our soil pressure to be 30 pounds per cubic foot. With water weighing about 62½ pounds per cubic foot, we were immediately working with a loading medium about twice as heavy as ordinary soil or earth. Whenever the walls failed at five, six, or seven feet, we assumed that we were working with a factor of safety of 2.

We made a number of these tests and found that the ordinary 12-inch block wall laid in a 1-1-3 mortar withstood water pressure on three tests to depths of 5 feet, 5 feet 1 inch and 5 feet 3 inches. An 8-inch wall, with 8-inch pilaster at the middle, laid with conventional mortar of 1-1-3 mix, failed at 5 feet 5 inches. The three 8-inch Groutwall test panels failed at 6 feet 6 inches, 7 feet 1 inch and 7 feet 4 inches. In each case, we found that the 8-inch Groutwall was stronger than either the 12-inch block or 8-inch block with 8-inch pilaster on 12-foot centers.

Instead of using a weak mortar link in our Groutwall tests we used an exceptionally strong cement grout. While the grout is loaded with water and is of a soupy consistency, the block acts as a sponge and the water is immediately pulled out of the grout. Tests on this grout showed that it had a strength of 4,000 to 5,000 pounds per square inch.

These practical tests were continued for the purpose of demonstrating to public building officials, as well as to FHA and VA officials, that 8-inch Groutwall compares favorably with conventional walls, and we are expecting acceptance and permission to use this design in the near future.

It is worthy of note that we will first attempt to establish Groutwall in the residential foundation wall market. Plainly, however, there are many other applications for such a wall design, and ultimately we even hope to compete with prefabricated walls and tilt-up construction.



• A bottom view and cross-section of the 8-inch Groutwall unit. The height is precision ground to 8 inches.

When you extend credit you make an investment in someone else's business. This timely article warns you to . . .

INVESTIGATE BEFORE INVESTING

By HAROLD J. ASHE

It is doubtful whether many concrete products manufacturers would undertake to supply materials and/or labor for improvements being made by a home owner without first assuring themselves that the customer is able to pay. Yet oddly enough when it comes to jobs running into the thousands or tens of thousands of dollars, caution is often abandoned.

At least this is the only conclusion which can be drawn from the huge number of mechanics' liens which are filed yearly by sub-contractors and material suppliers. Surely the number of mechanics' liens could be reduced sharply if sub-contractors and material suppliers generally exercised a little more judgment in the granting of credit. Until contracts and material bills are paid in full, they are doing just that: extending credit.

While mechanics' lien laws in the various states may provide ultimate relief for contractors and suppliers unable otherwise to collect what is due them, having recourse to legal procedures always entails some delay; whereas timely collections may be imperative if a contractor or material supplier is not to be seriously handicapped for cash with which to continue business operations.

Moreover, liening a property may result in an innocent third party being victimized. In fact, more often than not, it is an innocent party who pays off defaulted bills. This is not good public relations for the building trades industries — even though liens have legal blessing. Anything which can reduce the number of liens represents a marked gain for good public relations while, at the same time, lightening the financial pressures upon contractors and suppliers.

Even while clinging to his legal right to lien a property and collect if necessary from an innocent party, a contractor or manufacturer should recognize that he has a moral obligation to take every reasonable step to insure that a lien against a third party will be unnecessary. His first step toward this end should be taken before signing a contract or agreeing to lay down materials on a job.

That the property is "good for the contract" is no excuse for being indifferent to the financial standing of the general contractor or builder. The knowledge that a mechanic's lien can be placed against a property should not be a protective substitute for a credit report or independent inquiry to satisfy a creditor that funds are available to honor all material and contractor claims. The rash of mechanics' liens in recent months indicates that too many subcontractors and suppliers are relying on such legal action rather than forestalling collection problems at the outset.

The Better Business Bureau has a sloganized piece of advice which contractors and material manufacturers might well make their own. It is: "Before you invest — investigate." Certainly when a contractor enters into a contract without investigating he is "investing."

There is a marked increase in the number of under-financed builders and speculative promoters. The Real Estate Commission of one large state (California) has taken official cognizance of this situation. These gentry, operating on a shoestring, are accepting down payments and commingling these with their own limited funds to finance speculative housing projects — instead of impounding such funds for the protection of buyers. This practice, in itself, indicates these promoters are desperately short on funds. If all goes well, all ends well. However, the slightest miscalculation and some sub-contractors are left holding the bag — until the load is shifted to the luckless home buyers through mechanics' liens.

Less than a year ago, every home owner in a recently completed large tract of G. I. homes had a lien slapped on his property to satisfy the unpaid bill of a material supplier. It is not likely that these home owners uniformly will blame the builder only. Some, at least, upon reflection may consider the lien holder should have been more diligent in insuring collection of his money. The ill-will of several hundred home owners spread over future years should not be regarded lightly. From this vantage point, one does not need the gift of second sight to foresee a waive of indignation and demands for modification or repeal of the lien laws. If the filling of mechanics' liens is used only as a last resort — and after running a credit check before starting work or laying down materials — liens may be sharply reduced and the public may deem the law reasonable. However, if material suppliers and contractors ignore credit reports, secure in the knowledge that mechanics' liens can effect collections, even liening as a last resort may be denied.

In this connection, it is significant that more and more lien actions are becoming newsworthy, alerting home owners and other property owners of the danger to them of a lien. In one recent criminal action, which was reported for several days in the Los Angeles metropolitan press, a building contractor failed to pay off material bills and subcontractors. He was charged with grand theft.

One witness testified she had paid the contractor $2821 on a contract to add a 12- by 14-foot room to her home. The contractor had paid only $375 to two sub-contractors.

"We had to pay the workers $1600 — which wasn't all they should

have gotten," said the witness. "But they took pity on us in our dilemma and cut their price. And my husband had to finish the job." The final cost of the room was $5,100 or more than $34 a square foot.

In another case a church had to pay a second time for a sub-contractor's work on a recreation hall because the general contractor failed to pay the sub-contractor.

Since the end of World War II, a new breed of building trades entrepreneurs have come along which both concrete sub-contractors and products manufacturers should eye with suspicion. These "builders" are in business just to make a fast dollar; they are woefully short on capital and practical building trades experience. They are not to be confused with the legitimate builders and generals who have a background of practical experience. They sub out all work for as little as possible while charging all the traffic will bear. They are primarily salesmen acting as middlemen without, however, performing a full middleman's role. If business is slack, they don't cut back on their style of living but, instead, default on obligations to sub-contractors. Some of them got their basic training as suede shoe artists in the mastic paint and other rackets before FHA clamped down on insuring loans for improvements of dubious value.

Still another development which has gone unnoticed until recently is in the field of speculative commercial buildings. Here the promoters undertake ambitious building programs without sufficient funds to complete their structures. Funds run out before completion and sub-contractors and material men receive only part of the total amount due them. Then they are asked to wait for the balance until the venture starts paying off. In short, these creditors are made unwitting investors in the projects, although they are not so informed at the outset.

Recently, the Nevada State Tax Commission focused attention on this development. It may be worth watching for elsewhere as these devices have a way of spreading. The Las Vegas Builders Exchange, composed of sub contractors and material dealers, charged that southern Nevada's economy is threatened by these shoestring operators, according to a news story. Spokesmen, it was reported, estimated that sub contractors and material suppliers are holding upwards of $5,000,000 in unpaid bills of certain luxury resorts in Las Vegas. It was proposed that the Tax Commission require hotel builders to put construction money in escrow or put up a performance bond before being granted gambling licenses.

One commissioner pointedly asked if tighter business practices by sub contractors and material men might help. However, a spokesman for the Builders Exchange replied that promoters keep current on bills until projects are about three-fourths completed.

"Then," he is quoted as saying, "they are out of money and we have to keep carrying them because the nationwide publicity of a major hotel failure would be bad for the entire area."

With all of the foregoing trends and circumstances in mind, it might be well for concrete products manufacturers and contractors to give more attention to credit checks before signing contracts involving large amounts of money. Mechanics' liens should be reserved only as a last resort — and not be employed as a substitute for ordinary business caution.

Achieves Low Cost and Beauty By Combining Block & Redwood

Architect Richard George Wheeler combined concrete block with California Redwood to produce Southern California's first office building designed specifically to meet the special professional requirements of an advertising and public relations agency. The low, contemporary style, $28,700 one-story structure, located in San Diego, was designed for the Phillips-Ramsey Corporation. Robert F. Watson, the builder, asserts that construction simplification made possible by the use of concrete block enabled him to build the structure at the amazingly low construction cost of only $12.50 per square foot.

Dry Block With Propane Gas

By HARRY J. MILLER

Liquid petroleum gas helps Oregon producer meet stiff specification

LIKE the hypothetical battle that was lost for the want of a horseshoe nail, entire industries and markets sometimes spring to life-or die-because of some single, apparently trifling factor which later proves to be the whole key.

So it was last year when the Corps of Engineers caused Smithwick Concrete Products Company of Portland to seek a more efficient, easily-controlled means of curing concrete blocks.

The hard-boiled engineers ordained that blocks had to be lighter and stronger, and the range of permissible moisture content in cured blocks had been narrowed almost to the point of impossibility. But the Oregon company met the challenge.

One of the projects to which Smithwick was furnishing blocks was the gigantic Dalles dam, 60 miles up the Columbia River from Portland, and the specifications for material going into the mammoth construction were rigid. Anti-cracking qualities stipulated by the government's top-brass were well nigh impossible to achieve with the conventional concrete-curing equipment in use by many block companies.

Items manufactured by Smithwick embrace about everything that can possibly be made from concrete, although its chief function is the manufacture of building blocks, prefab bases for small tanks, and the larger tank bases or "horse collars".

For making these, Smithwick had the needed know-how. They'd had the experience of using block-dryers operated by fuels with which it was necessary to install humidifiers or use applications of steam to prevent case-hardening caused by too dry an atmosphere inside the drying chamber. And they understood the technique of avoiding the making of improperly cured blocks which developed discouraging cracks after a session of rain and sun.

So abandoning the conventional fuels, Smithwick installed a dryer which is fired by LPG-Liquid Petroleum Gas—and results were at once heartening.

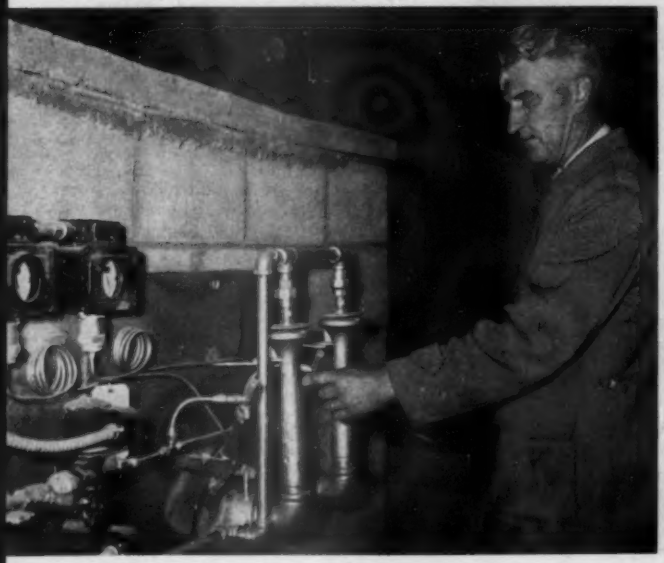
First off, it was no longer needful to worry that the outsides of the concrete blocks would case-harden, with the outsides drying prematurely and the inner material never completely cured, due to a drying atmosphere excessively hot and dry. Furthermore, the company made the happy discovery that the water formed in the products of combustion from the propane gas completely eliminated the need for any special humidification devices.

And the severe cracks which frequently occur in blocks dried in other ways were banished completely by the new method. Careful laboratory tests made after the blocks remained in the new dryer for approximately 12 hours, showed blocks were reduced in weight from 27 to 23 pounds apiece, while the moisture content in the blocks showed up at around 8 percent, a figure well within the government specs.

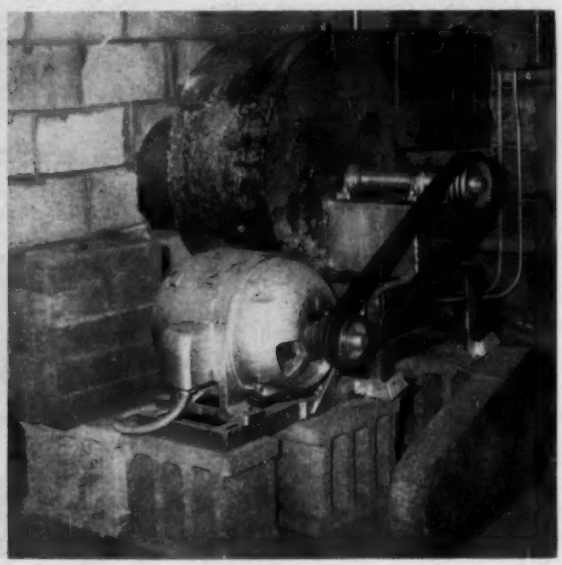
Smithwick's propane-fired drying chamber is a room 34 feet long, 12 feet wide and 8 feet high, totally enclosed by insulating blocks and reinforced concrete. Two thousand 8- by 8- by 16- inch block, or 4,000 partition units, may be dried simultaneously in this kiln.

Since propane gas is easy to regulate, thermostatic controls provide a temperature constantly maintained at 500 degrees by two burners capable

• E. G. Carey, who engineered the installation, checks one of the two burners mounted on the firebox of the Smithwick dryer.



• A blower forces hot air from the combustion box at left into the drying chamber. Temperature of the air is controlled thermostatically.



CENTRAL CEMENT FEED

prevents gumming

reduces dusting

pre-shrinks materials

Johnson Concentric Batcher provides these practical advantages for fast, economical weigh-batching of aggregates and cement:

● Concentric arrangement of aggregates around the cement batcher discharge gives central cement feed. This prevents "gumming", reduces dusting, pre-shrinks materials. All ingredients are intermingled as they flow through discharge.

● Cement, concrete's most expensive ingredient, is weighed individually on a precision-beam scale, in a separate batcher hung within the aggregate hopper.

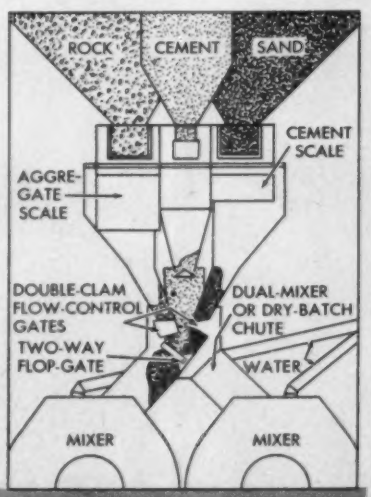
● Adjustable rate of discharge on cement permits extremely accurate ribbon-feeding. Semi-automatic cement arrangement cuts off just ahead of final weight.

● Aggregates are weighed on accumulative dial scale, or on individual weigh-beam scales.

● Two-way discharge with dual chutes are available for charging 2 stationary mixers, or for charging into 1 stationary mixer and a truck-mixer, or dry-batch truck.

● Concentric Batcher sizes range from 2 to 8 cu. yds., and can be arranged for 2 to 8 aggregates — plus 1 to 4 types of cement. Choice of controls: fully automatic air-ram operated, semi-automatic, or manual, to best suit your needs.

Let your Johnson distributor show you all the other production advantages you will get with one of these patented Concentric Batchers in your plant. See him, or write to us.



22BW-CONC

(Koehring Subsidiary) C. S. JOHNSON CO., CHAMPAIGN, ILL.

CONCRETE PLANTS • BINS • RECEIVING HOPPERS • ELEVATORS • SILOS • BUCKETS

of producing a total of one million BTU.

Heat is evenly distributed throughout the stacks of blocks inside the dryer by a blower which turns at 2,000 rpm. At this speed it effects a complete change of air in the chamber every 50 seconds. A return system takes the air back to the heating chamber, which is a cubicle compartment approximately 6 feet on a side, built onto the side of the kiln. Here the air is reheated and recirculated into the drying chamber.

During the initial tryout of the new dryer, extreme care was exercised to maintain close control of temperature. Smithwick experimented with lower temperatures and worked gradually up to 500 degrees F., which appears to be the optimum limit.

Operating on a consumption of only 10 gallons of LPG an hour, the Smithwick operation is being observed closely by several other concrete block companies in the Portland area. They're figuring if the new system helped the "big fellow", it ought to help the curing operations of the little fellows also.

■

Letters

(*from page* 31)

The enclosed photo shows a place close to London where 18- by 9- by 2-inch solid partition slabs are made on a German machine, 23 slabs at a time, in one row. The machine turns out 9,000 of these slabs per 8-hour shift. It makes the 23 slabs, depositing them on edge on a concrete platform, and then moves along to a new position. No pallets are required. By exchanging outfits (moldbox and headload) solid and hollow blocks from 2 to 9 inches thick can be made on this machine. Naturally, the thicker the unit, the smaller the number of blocks made per cycle and the output per day.

A large number of these machines are working here in Great Britain and giving great satisfaction. They could also be made for blocks 12 inches high, as P.H.S. desires, and the blocks would stand up if made of "no-fines" concrete. However, they would not stand up if made from whole rice husks.

A British built machine, working on the same principle, is also available but it is a smaller unit. The price of this machine for making 18- by 9- by 2-inch slabs, 9 per cycle, would be approximately £ 350. f.o.b. British Port. I am enclosing also a cut showing the British machine.

If P.H.S. wishes further information or advice on the matter, please let him have my address.

Asks for More Price Security on Cement

In a major address at the recent Chicago convention of the National Ready Mixed Concrete Association, Herbert G. Jahncke of New Orleans told fellow producers of concrete that one of their major needs is for more price security on cement. Noting that ready-mixed producers serve in a sense as sales agents for the cement industry, Mr. Jahncke expressed the view that concrete producers deserve more advance notice on price increases as protection against their own long-term commitments to supply concrete.

The speaker deplored the reluctance of some cement producers to regard their relationship with ready-mix customers as a contractual one, and he voiced the belief that there is no sound reason why sales contracts cannot guarantee prices for at least a year.

Elsewhere in his talk Mr. Jahncke stated that the output of portland cement has not kept pace with the increase in construction activity, and he made the prediction that by the mid 1970's the demand for portland cement may be twice the present level. He suggested that it no longer makes sense for ready-mix producers to order cement from day to day. "In the future," he said, "it will be of the utmost importance that we anticipate our needs and work closely with cement suppliers."

■

Court Gives Okay to Machine Made Pipe

A Miami, Florida, circuit judge has ruled that a State Road Department specification is in violation of competitive bidding statutes because it required that all concrete pipe of 48-inch diameter and larger for a storm drainage project must be cast and vibrated. Road Department officials had contended that since the project was in very flat terrain, it required the cast-type pipe in order to assure smooth interior surfaces and the highest efficiency in the movement of water through the system.

The court held that testimony of expert witnesses had established that it is possible to produce concrete pipe by the machine method having interior surfaces so smooth as to be practically indistinguishable from cast and vibrated pipe. During the hearing one of the Road Department's witnesses, an engineer with many years of experience in the department's testing laboratory, incorrectly identified a sample of machine-made pipe as having been cast and vibrated.

The action was brought by the Associated Concrete Pipe Company of Miami. Officials of the company testified that the specification would create a monopoly for one of their competitors and force them out of business.

■

Ready Mix Producer Liable for Cement Burns

In the construction of his own home in California a welder undertook to lay a concrete basement floor. He did not know, nor had he ever been warned, of the possibility of sustaining burns from prolonged contact with plastic concrete. The concrete had been poured down a chute into the cellar, and for five hours he worked levelling it with his knees and legs in contact with the wet material. As a consequence he received third degree burns over approximately fifteen per cent of his body.

In that state there is a statute, essentially the same throughout the country, that reads: "There is no implied warranty or condition as to quality or fitness for any particular purpose of goods supplied under a contract to sell or a sale except as follows: where the buyer expressly or by implication makes known to the seller the particular purpose for which the goods are required and it appears that the buyer relies on the seller's skill or judgment, there is an implied warranty that the goods shall be reasonably fit for such purpose."

In the lawsuit brought by the victim of these burns against the ready-mixed-concrete producer the court said of the producer's liability:

"On principle it would be unreasonable and unjust to hold that the warranty is limited to the end product, and does not include a warranty that the goods furnished can be safely used in the construction of the end product. We therefore hold that there was an implied warranty that the material was reasonably safe for the purpose of laying a concrete floor. There can be no doubt that the evidence shows that the cement caused the burns. Thus there was ample evidence of a breach of the warranty of fitness."

—Albert Woodruff Gray

Dodson's Digest

A new world's record in concrete-block production

Dropped in on Jim Carson the other day. Jim owns a concrete-block plant, and also turns out a few specialty items. He started right in kidding me, like he always does.

"Tell me, Dod," he said, "we're always developing new products and methods in the concrete business. How come you never have anything new in Calcium Chloride?"

"As a matter of fact, Jim," I said, "I do. You can now get Calcium Chloride in pellet form. Our pellets are concentrated, so four bags of pellets will do the work of five bags of flake. It's easy to use, and . . . "

"That *is* news," Jim broke in, enthused. "That will mean less storage space for me, and my men will be able to handle it faster."

"And don't forget the benefits you already get using Calcium Chloride," I reminded him. "Higher early strength, built-in curing . . . "

"And Calcium Chloride reduces breakage and gives me better looking products, too." Jim proceeded to illustrate this last point by taking me out to look at some of his products.

"I made ten of these in ten days," Jim said proudly, pointing to a row of garbage receptacles.

I saw a chance to do a little kidding myself. "Not bad," I agreed, "but a place I was at last week turns out 20 of them every week."

Jim led me over to some rows of concrete pipe. "There are 100 units here," he said, "and I turned them out in four days."

"Not bad," I admitted, "but this other place turned out 200 units in three days."

I could see the determination forming in Jim's face to stop this. He led me to a huge pile of concrete block. There must have been 3000 of them.

"Very impressive," I said. "How many blocks are there?"

Jim looked at them, scratched his head, and pretended to be surprised. "I don't know," he said. "They weren't here yesterday!"

—L. D. Dodson

P.S. — You'll want to get the complete story on the use of Wyandotte Calcium Chloride pellets in concrete. For complete information, just drop me a line, stating your applications. *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in principal cities.*

Wyandotte CHEMICALS

MICHIGAN ALKALI DIVISION

HEADQUARTERS FOR CALCIUM CHLORIDE

COMMENT

from the

BUTLER ENGINEER

. . . Of a Giant, Whiskers and Successful Bids

Your Butler engineer has now dealt with the ultimate — the pinnacle — the Mt. Everest of complexity in materials handling and plant design. Did I say "plant"? I meant multiple plants. It's a gigantic layout. On my preliminary scale drawings a line of 10 freight cars looked small as 10 whisker bristles from a morning shave. It's a huge ready mixed concrete deal; they sell sand, gravel and other aggregates, and they also have a large asphalt operation. Materials come in and ship out by train, by barge and by truck. And conveyors had to be designed to switch from barge to truck and again to train from the enormous stock piles. In several instances conveyors had to be reversible on exactly the same plane.

The entire yard is a network of rail lines and sidings, yet we were able to plan all truck routes without crossing any tracks . . . Have you ever seen a complicated wiring diagram? That's about what our drawings resembled.

But we're all proud to have been consulted and we're doubly proud our plans and recommendations are accepted. We feel that it is not only a feather in our cap; we think it represents more feathers than are in an Indian war bonnet.

■

Roadbuilders have a cheerful fact to deal with since the development of the Butler *Automatic* Roadbuilders Plant. As you may know, it batches sand, cement and two sizes of stone *with only one operator.* (Suggest you write for Bulletin describing it) . . . The cheerful fact? A contractor with this plant can successfully bid any paving job he wants, and make a bigger profit.

That's a *concrete* fact.

Yours faithfully,

The Butler Engineer

BUTLER BIN COMPANY
WAUKESHA, WISCONSIN

MANUFACTURERS' NOTES

Automatic Proportioning

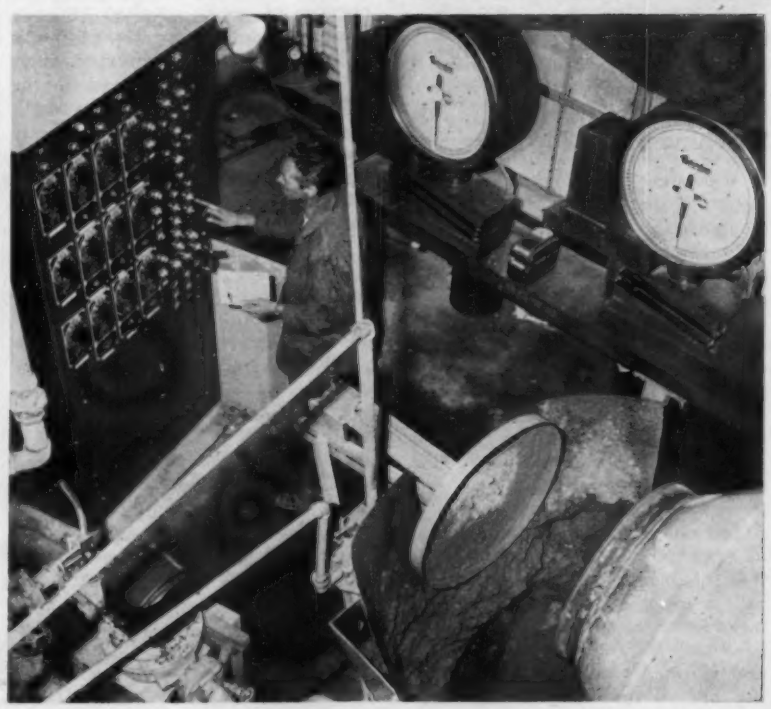
A new concrete proportioning system recently placed in operation at the central mixing plant of J. P. Loomis Concrete & Supply Company, Akron, Ohio, is said to be capable of handling automatically a large number of different formulas, with accuracy to one fourth of 1 per cent on cement weights and one half of 1 per cent on aggregates. The entire operation, from storage bins to mixing truck, is automatically controlled by one man working from a central control panel. Features of the system include special panel controls for recording weights, locking formulas into the system for repeat runs, and automatic compensation.

The operation is centered around two scales and a master control panel from which the operator dials out the exact amount of each material required for the mix. The complete proportioning and mixing cycle takes approximately two minutes.

The Loomis plant has been in operation since 1950. Its layout and equipment are designed to provide the most modern high-speed operation possible. At the concrete plant all storage bins, proportioning equipment and mixers are installed around a single platform to permit a one-man operation, rather than having weighing, mixing and dumping operations on three different levels.

Loomis' business is highly diversified, with orders coming from private individuals, business concerns

• RIGHT: Special recording feature of the automatic proportioning system records the amount of each ingredient fed into a concrete formula, giving a permanent record of each mix. BELOW: The master control panel of the system enables one man to supervise the entire mixing operation. The panel contains three sets of selector dials with four dials each. Repeat formulas can be locked into one or two sets of dials, with the third left open for short runs.



and state and local government agencies. Its peak concrete production is about 840 cubic yards a day, and it can prepare 30 mixes an hour at a rate of 90 cubic yards per hour.

Much of this work involves mixing new formulas to a customer's specifications. Precision proportioning and automatic recording of each ingredient in the mix are important in eliminating any question of formula accuracy.

Before installing the new system, Loomis used an improvised scale system for measuring concrete ingredients. This system had no automatic recording features built into it. During a mixing operation, the operator would record on graph paper the amount of each material he had fed into the mixer. This sometimes led to formula inaccuracies of 30 pounds per ton or more.

Of the new scales, one has a 5,000-pound capacity, calibrated in 5-pound units, and is used for weighing cement. The other, a 10,000-pound capacity scale with 10-pound increments, weighs aggregates and can handle up to any three out of five per mix. These scales are accurate within these increments, which gives Loomis concrete formulas that are three times as accurate as its former system provided.

The control panel contributes a great deal to the success of one-man operation. The panel contains three selector dial systems, each containing four dials, and provides push-button control of every phase of the mixing operation until the concrete is delivered to the mixing truck. In this way, the operator can control the entire operation without moving from the platform — and know that the mix will be accurate.

In addition to the speed and accuracy of the new system, Loomis finds the automatic recording mechanism extremely valuable. As each material is fed into the scale, its weight is recorded on a paper tape. At the end of the proportioning operation, the operator removes the printed portion of the tapes from the machines, compares them with the actual order from which he set the selector dials, and then attaches the tapes to the order as a permanent record of the delivered weight of each ingredient.

This is said to eliminate any question of accuracy or quality, particularly when mixing new formulas. And the operator is able to double-check his own work after he has dialed the formula into the system.

The formula locking mechanism permits the operator to repeat a de-

Here the all-hydraulic Hydrocrane spots a concrete bucket pouring footings. By telescoping boom in and out load can be positioned without moving crane an inch — particularly valuable on indoor jobs where walls and ceilings restrict hoisting or lowering boom. Note how high the boom is mounted on "A" frame. You can set boom parallel to ground and poke the nose straight in and out of the spot where you're loading.

BUCYRUS ERIE HYDROCRANE **Changes Boom Length While It Works—**

noses in and out, speeds up construction

A boom with an 8-ft. telescoping section that can slide in and out hydraulically *while crane is working* — that's the made-for-builders feature you get with a Bucyrus-Erie Hydrocrane. Telescoping section extends or retracts *either while boom is stationary or during boom hoist or line hoist.* With this outstanding feature, operators have nosed boom into windows, between girders, over walls — quickly slipping beams, flooring, store facing into places an ordinary crane couldn't reach.

Compact Hydrocrane a "Squeeze-In" Specialist

Extremely short tail swing (about 4½ ft.), low overall height, and independent boom hoist plus boom telescope permit almost unbelievable maneuverability on erecting and material spotting jobs.

Make the "Reach" Test — Right on Your Job

Find out exactly what the telescoping Hydrocrane can do for you — put it to work erecting steel, placing pre-cast beams, pouring concrete, moving fixtures and materials. Add up the minutes, hours, and dollars this reaching boom can save you. Arrange for a demonstration now.

71H55

BUCYRUS-ERIE COMPANY

South Milwaukee, Wisconsin

You need more than good block to create a market for

CONCRETE MASONRY

First requisite for a successful concrete masonry business is making block that comply with applicable specifications for strength, dryness and absorption. But it takes much more to create a steady market for your block. It means:

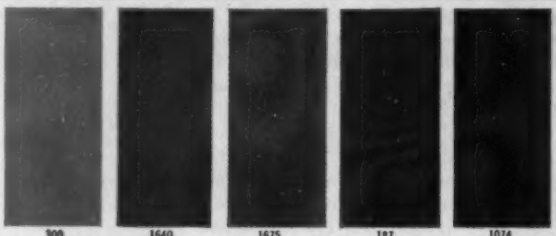
—keeping architects, contractors and masons aware of the advantages of concrete masonry.

—supplying information to prospects; showing them actual installations, and furnishing names of architects, builders and lending agencies experienced in designing, building and financing concrete masonry construction.

—making on-the-job inspections to assure quality construction. The latest recommended practices are described in the new 64-page book, *"Concrete Masonry Handbook."* Send for your free copy, distributed only in U.S. and Canada.

PORTLAND CEMENT ASSOCIATION
Dept. 3-14, 33 W. Grand Ave., Chicago 10, Ill.

A national organization to improve and extend the uses of portland cement and concrete . . . through scientific research and engineering field work



A guide for choosing concrete colors

For producers of split blocks, patio blocks, concrete blocks and other colored concrete products.

Manufacturers of colored concrete products agree . . . *The pigments they use must have these 3 important qualities:*

1. A high degree of tinting strength when added to the mix
2. Color uniformity year in, year out
3. The ability to incorporate easily

Manufacturers also require a pigments supplier whose technical department is capable and cooperative, whose shipping service is prompt and dependable.

Point for point, REICHARD-COULSTON quality-controlled pigments and dependable service meet *all* these requirements!

The shades shown above are just 5 of the many concrete colors manufactured by REICHARD-COULSTON. Included are yellows, buffs, maroons, grays, reds.

For a free color card, fill in and mail the coupon. Act now.

GENERAL RECOMMENDATIONS: PASTELS (*Split blocks and similar products*), 2-4 lbs. for each bag of cement. DEEP SHADES (*Patio blocks, concrete blocks, etc.*), 6-8 lbs. for each bag of cement.

Reichard-Coulston, Inc.

15 EAST 26th STREET, NEW YORK 10, N. Y.

Warehouses in principal cities; factory: Bethlehem, Pa.
Over a century of manufacturing and service

Natural IRON OXIDE PIGMENTS *Synthetic*

REICHARD-COULSTON, Inc.
15 East 26th St., N. Y. C. 10

C-36

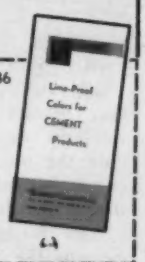
Gentlemen: Please send me a free card of REICHARD-COULSTON concrete colors.

My name_____ Title_____

Company_____

Address_____

City_____ Zone____ State_____



sired formula once it has been set up in the selector dials. If the operator knows he will be running the same formula several times, he can lock the dials on this formula and then simply press a dial button whenever he wishes to repeat it.

With three banks of dials on the control panel, the operator can lock formulas on one or two sets of dials for long-run formulas and still have the third set open for one-shot or short-run mixes. The locking device also insures that Loomis will get identical mixes every time it repeats a run.

To prevent any carryover of previous weighings, the scale employs an electrical automatic mechanism. Following scale discharge into the mixer a tare check circuit is energized to prevent starting of the next weighing cycle until all material has cleared the weigh hopper and the scale is in perfect empty balance. This balance is verified by the dial scale pointer.

Should the actual weight of each ingredient in the scale differ from the dialed weight by more than the preset tolerance, the entire system stops and a red warning light for under or overweight flashes at the control panel. This allows the operator to use manual controls to correct the mistake or account for it by proportionately increasing the other ingredients.

Concrete ingredients are stored in seven bins — two for cements, five for such aggregates as gravel, slag, sand and limestone — located above the mixer. Bins are electrically connected to the control panel. Aggregates are dropped by gravity while cement is blown into the system by an air-flow process.

When the operator cycles a formula, he stands at the control panel and sets the selector dials controlling each ingredient for the amount specified on the customer's order. He then presses the "start" button to actuate the feeder mechanism. The amount of material set on the first aggregate selector dial and the amount of cement set on the cement selector dial is then fed to the automatic scales.

When the quantity specified on the control panel is reached, the feeding stops and the aggregate scale then repeats the operation for the next ingredient. This continues until the formula is completed. When the scale dials show the desired amount for the complete formula, the operator checks the printed tapes against the customer's order. Then he sets the mixer in motion.

Water is added from an automatic meter, which shows the operator the amount of water entering the mixer. During the mixing operation the operator can open the mixer and observe the operation without moving from the platform.

The loading station for the mixing truck is located directly below the mixing plant. When the mix is completed, the operator presses a panel button which actuates a hydraulic mechanism that tilts the mixer. The concrete then pours through a two-door opening in the mixing platform into the truck bed. For additional information regarding this automatic proportioning system write Richardson Scale Company, Clifton, New Jersey.

YOUR TRUCK DRIVER DOES THE WORK OF 3 MEN

with the JIFFY LIFT loader and unloader

Model E-6 is illustrated above and will handle 180 blocks of 42 lbs. each, a total of 7,560 lbs. With special rig, capacity is up to 6 tons.

Model E-7 handles 210 blocks of 42 lbs. each, a total of 8,820 lbs. With special rig, capacity is up to 6 tons.

Years of trouble-free service are built into the JIFFY LIFT and its rugged durability has been proved in thousands of field test loads. It can be operated for a few cents a day and will pay for itself in four months or less. It is 92 inches wide from center to center of track. The lifting bars are square and pin-connected to assure fast, smooth unloading operation. Its outstanding features include:

■ **4-WHEEL DRIVE**

Making it safer to unload on an incline, reducing slippage on the tracks and assuring smoother operation.

■ **4-CABLE SUSPENSION**

Eliminates swinging, permits lifting well over rated loads with ease.

■ **2-SIDE OPERATION**

The JIFFY LIFT may be operated by the truck driver from either side with utmost ease and complete safety.

■ **ALL PARTS STANDARD**

Every component part of the JIFFY LIFT, including the power mechanisms for the 4-cable lift as well as the forward and backward motion, is a standard stock item of nationally-known-for-quality manufacturers, readily obtainable from us or the manufacturer's sales representative nearest you.

■ **EASILY INSTALLED**

Your machinist can easily install the JIFFY LIFT on your truck bed, or it can be done at our factory by sending your truck and saving the shipping charges.

WRITE, WIRE OR PHONE FOR INFORMATION AND PRICES

DEALER INQUIRIES INVITED

ELBERFELD MANUFACTURING CO., INC.

ELBERFELD, INDIANA **PHONE: 71**

Yale & Towne Promotion

Fred E. Rau, hoist equipment district sales manager in Cleveland for The Yale & Towne Manufacturing Company, has been named to the newly created post of assistant hoist sales manager.

Trade Names Combined

The consolidation of two of the country's oldest names in truck equipment, Gar Wood and St. Paul, was announced recently by Edward F. Fisher, president of Gar Wood Industries, Inc., Wayne, Michigan. The combination of the two trade marks allows the company to standardize its truck equipment line, until now virtually two separate lines.

New Corporation Formed

A newly formed corporation, Cleaver-Brooks Western Hemisphere Limited, has been established to expedite marketing of Cleaver-Brooks products in the western hemisphere. The new corporation will render service on Cleaver-Brooks products to all countries in the western hemisphere with emphasis on the Canadian, South American and West Indies' markets.

Master Builders Promotions

S. W. Flesheim, chairman of the board of The Master Builders Company, division of American-Marietta Company, has announced expansion of the company's research laboratory administrative and supervisory staff. Stephen W. Benedict has been made vice president of research and engineering, Herbert K. Cook director of engineering and Thomas M. Kelly director of research. In addition to these promotions Perry H. Petersen has joined the organization as assistant director of engineering.

Dr. Edward W. Scripture, Jr., with Master Builders since 1930, is retiring as vice president in charge of research but will be retained in the capacity of consultant. Widely known for his research in the field of concrete and mortar, he is the author of many published papers dealing with this field.

Mr. Benedict joined Master Builders as director of research in 1948. A graduate of the University of Illinois in civil engineering, he served as materials research engineer with the National Advisory Committee for Aeronautics. He was materials engineer for 10 years with the National

S. W. Benedict

H. K. Cook

T. M. Kelly

P. H. Petersen

How Willard makes concrete placing *easier... faster!*

5½ C.Y. WILLARD with fluid drive

HELPER FINS at mouth of drum discharge smoothly without surge.

SINGLE LEVER CONTROL operates throttle and drum brake.

DRUM BRAKE prevents roll back and concrete re-surge.

CLUTCH ACTS AUTOMATICALLY when shifting gears to mix or discharge.

EXTRA LONG CHUTE is 17 feet with extensions.

HYDRAULIC LIFT ARM raises or lowers end of chute for accurate placing.

See your local Willard dealer or write for descriptive bulletin.

Member: T.M.M.B.

Manufactured in Los Angeles, California and Galion, Ohio

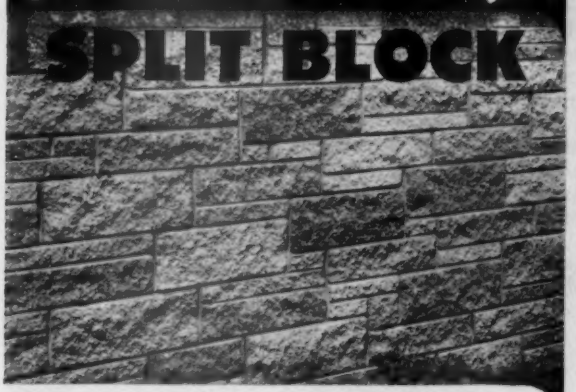
WILLARD CONCRETE MACHINERY SALES COMPANY

11700 WRIGHT ROAD, LYNWOOD (LOS ANGELES COUNTY), CALIFORNIA

WILLARD TRUCK MIXERS

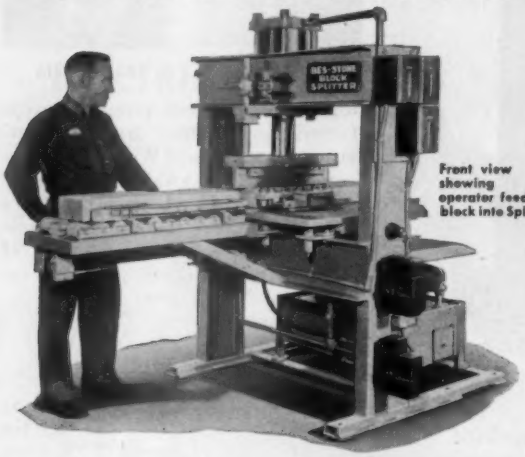
"Cash in" on the Demand for

SPLIT BLOCK



Install a BES-STONE Splitter

You can greatly increase block sales and add to profits by using a Bes-Stone Block Splitter. Architects and builders are sold on Bes-Stone Split Block because of its beautiful quarried stone appearance and wide range of adaptability. With its powerful, hydraulic operation, the Bes-Stone Splitter handles up to 900 units per hour. All straight line cuts. No cull block. Quickly adjustable for various heights. Finished Split Block is automatically removed from under the splitting knife by the incoming block. Quiet, safe operation.



Front view showing operator feeding block into Splitter.

. . . and this

PONY TRIMMER

Comes in Handy for

Trimming Block on the Job

Trims off the ends of split block up to 8" in width. Pressure is supplied by a hand-operated hydraulic pump having a capacity of 12 tons. Compact, lightweight, and easily portable from job to job.

Ask your Besser representative for literature, or write:

BESSER COMPANY

Complete Equipment for Concrete Block Plants

ALPENA, MICHIGAN, U.S.A.

IT'S

Lightweight

AS WELL AS...

- ★ Firesafe
- ★ Durable
- ★ Sound-Absorbing
- ★ Attractive
- ★ Strong
- ★ Nailable
- ★ Of High Thermal Insulation Value
- ★ An Excellent Plaster Bond

CELOCRETE

LIGHTWEIGHT AGGREGATE

No wonder Celocrete Lightweight Aggregate is being used by more and more leading builders and manufacturers of concrete products. Its big construction advantages and economies make Celocrete the preferred aggregate for masonry units, pre-cast building panels, soffit tile, monolithic floors and roof fill, and many other uses.

Celocrete Lightweight Aggregate is made from expanded slag by a process licensed *only* by the Celotex Corporation. This exclusive method honeycombs every particle of Celocrete aggregate with tiny air cells—resulting in lightweight plus *built-in* insulation and sound-absorption value. For complete information write The Celotex Corporation, 120 S. LaSalle Street, Chicago 3, Illinois.

Another Famous CELOTEX *Product*

CELOCRETE

REG. U. S. PAT. OFF.

LIGHTWEIGHT AGGREGATE

The Celotex Corporation, 120 S. LaSalle Street, Chicago 3, Illinois

Bureau of Standards in the cement and concreting materials section.

Mr. Cook became a member of the Cleveland firm's research laboratory staff in 1954. He was previously chief of the concrete division Waterways Experiment Station, Corps of Engineers United States Army, Jackson, Mississippi. He is nationally known as a concrete research engineer and is the author of technical papers on properties and methods of testing concrete.

Mr. Kelly, a graduate of Union College in 1933 in civil engineering, also joined Master Builders' research laboratory staff in 1954. He was masonry material research engineer in the National Bureau of Standards for 10 years, and for six years he was field construction engineer for the Corps of Engineers. In 1950, he was awarded the American Concrete Institute's Wason medal on concrete studies.

Mr. Petersen, a graduate of Cooper Union Institute of Technology in civil engineering, comes to Master Builders from U. S. Naval Civil Engineering Research and Evaluation Laboratory, Port Hueneme, California. He is author or co-author of a number of technical papers on concrete and mortar including several reports on research projects conducted while he was on the staff of the National Bureau of Standards, Masonry Construction Section.

"BIG TIME" ADVANTAGES IN THIS COMPACT AND RELATIVELY INEXPENSIVE KENT SUPER BLOCKMAKER

Here is an entirely new semi-automatic machine ideally suited for SMALL and MEDIUM block plants.

A SPECIAL air cylinder-powered press head makes possible a faster cycle and assures blocks of uniform height and equal density regardless of the material used.

PRICED BELOW any machine of comparable performance, the SUPER BLOCKMAKER consistently produces blocks at a rate of 5 per minute from any aggregate and has a peak output of 6 blocks per minute.

Equal delivery of aggregate to the mold box is effected by agitation and mold box vibration assures uniform block density.

A simple push of a button starts cycle during which various operations are automatically handled in sequence.

You'll be surprisingly pleased at the comparative low cost of this machine. Write TODAY for illustrated circular.

The KENT MACHINE COMPANY

CUYAHOGA FALLS, OHIO

CONCRETE PRODUCTS MACHINERY SINCE 1925

Worthington Election

The Worthington Corporation recently announced the election of Elston J. Tribble and Alysius M. Tullo as vice president. Mr. Tribble,

E. J. Tribble

A. M. Tullo

former assistant vice president-manufacturing, will have general supervision of a group of Worthington operating divisions which were recently organized under the corporation's decentralization program. Mr. Tullo will continue as general manager of Worthington's largest division at Harrison, New Jersey.

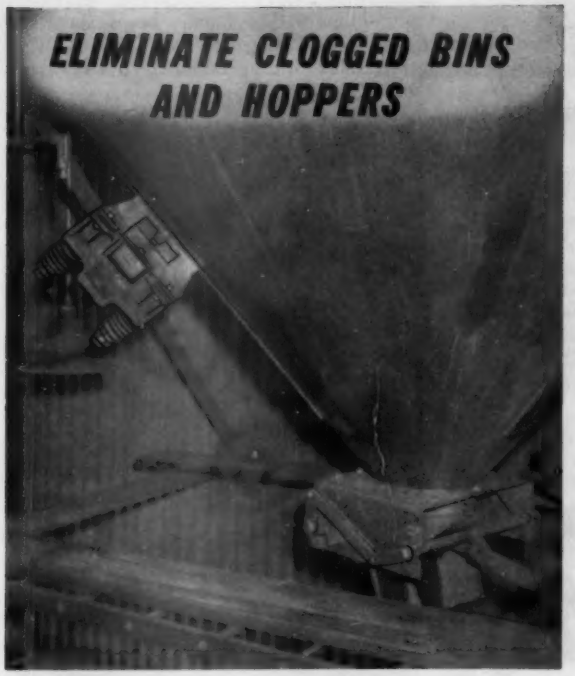
Ryerson Promotions

The appointment of Scott Vrooman as assistant manager of sales for the Chicago plant of Joseph T. Ryerson & Son, Inc. was announced recently by Roland W. Burt, plant manager. Succeeding Mr. Vrooman as manager of inside sales is Donald E. Woodruff, formerly a sales representative.

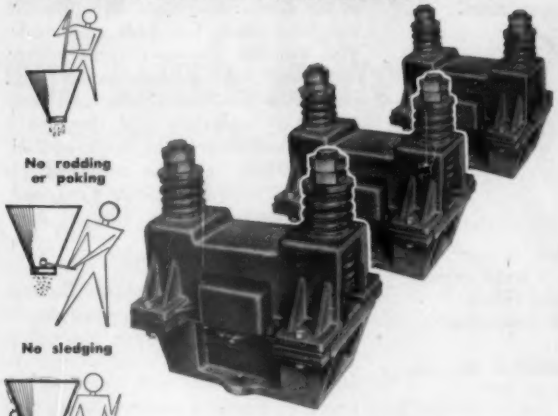
Materials Handling Center

Clark Equipment Company, Battle Creek, Michigan, has announced the opening of its new Materials Handling Development Center, established to develop materials handling methods for individual industries. Located in its own 20,500 square foot building, the Center will be equipped with both indoor and outdoor proving grounds and test areas. Facilities are available to set up mock demonstration areas typical of most industries.

ELIMINATE CLOGGED BINS AND HOPPERS



WITH
SYNTRON
ELECTRIC VIBRATORS



3600 constant, controllable vibrations per minute eliminate stoppages due to arching and plugging. Assure a fast, positive, free flow of most bulk materials, from fine powders to coarse, heavy lumps—wet or dry. Economical—practically maintenance free.

POWER TOOLS SPEED UP WORK

ELECTRIC HAMMERS

ELECTRIC SAWS

SYNTRON COMPANY
324 Lexington Ave. Homer City, Pa.

END 50° SLOW-UP IN SPRING CONCRETE

Save 2-4 Days with

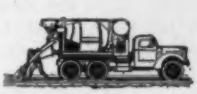
SOLVAY CALCIUM CHLORIDE

A temperature drop from 70° F. to 50° F. will reduce the one day strength of concrete almost 40% . . . a drop to 40° cuts strength development over 60%. This means that concrete at 50° takes two full days to equal the one day strength of concrete at a normal 70° temperature. Proportionate losses occur at two, three and seven days.

The addition of Solvay Calcium Chloride more than offsets these concrete strength losses due to lower spring temperatures . . . and gives the additional benefit of increased workability, greater ultimate strength, and positive uniform curing.

FOR READY-MIX CONCRETE!

SOLVAY Calcium Chloride NOW in NEW 25 lb. BAG!



- **Provides Positive Measurement Control!**
- **Easy and Handy to use!**

GET ALL THE FACTS — MAIL COUPON NOW!

Allied Chemical

SOLVAY PROCESS DIVISION
Allied Chemical & Dye Corporation
61 Broadway, New York 6, N. Y.

Please send me WITHOUT OBLIGATION OR COST your booklet:

☐ "When the temperature drops BELOW 50° F., do you know what happens to CONCRETE?"

☐ "The Effects of Calcium Chloride on Portland Cement."

Name .....

Company ..... Position .....

Address .....

City ..... Zone ..... State CO-3

NEW LITERATURE

SYNCLINAL FILTERS—Catalog 301 describes Marvel's synclinal filters for water. A copy may be obtained by writing *Marvel Engineering Company*, 7227 N. Hamlin Avenue, Chicago 45, Illinois.

HANDLING TECHNIQUES—Savings in concrete block handling techniques are described in three Hyster Company field reports. A set of the reports may be obtained by writing *Hyster Company*, 2902 N.E. Clackamas Street, Portland 8, Oregon.

FOUNDATION WALLS—Manufacturers of pre-fab homes will be particularly interested in Simplex bulletin F-1026 describing a new, low cost way to form foundation walls for "floating slab" homes. The bulletin describes the operation in step by step detail and offers substantial proof of its advantages. A copy of bulletin F-1026 may be obtained by writing *Simplex Forms System, Inc.*, 2500 North Main Street, Rockford, Illinois.

WET PIT PUMPS—A 16-page catalog covers Yeomans' line of heavy duty wet pit pumps. More than 30 pictures, drawings, tables and curves discuss and describe design features of the pumps, and suggest a wide range of applications for which the pumps have been successfully used. A copy of catalog 3007 may be obtained by writing *Yeomans Brothers Company*, 2006-1 North Ruby Street, Melrose Park, Illinois.

GEAR DRIVES—A completely new line of in-line helical gear drives is described in Link-Belt's 16-page brochure No. 2651. Load classes for over 250 applications, overhung load ratings and dimension tables, instructions for proper selection and cutaway views of both double and triple reduction drives are given. A copy may be obtained by writing *Link-Belt Company*, Dept. PR, 307 N. Michigan Avenue, Chicago 1, Illinois.

BULK SCALES—A two-color, six-page bulletin describes three models of the Richardson class 38 automatic weighing unit for bulk materials. The bulletin discusses construction, operation, feeding arrangements and capacities for the scales and lists over 120 materials that they have handled effectively. A copy of bulletin 8946A may be obtained by writing *Richardson Scale Company*, Van Houten Avenue, Clifton, New Jersey.

PRESSURE CONTROLLER—Bulletin 7040 describes the Honeywell small-case indicating pressure controller. This is available in ranges from 0-50 to 0-200 p.s.i., with on-off or 10 per cent throttlor control. A copy of bulletin 7040 may be obtained by writing *Minneapolis-Honeywell Regulator Company*, Industrial Division, Wayne and Windrim Avenues, Philadelphia 44, Pennsylvania.

COLOR CARD—Showing in full color 22 of the most popular lime-proof dry colors, this brochure incorporates some of the latest developments in unusual colors for the cement products industry. Recommendations for the proper procedure for incorporating color in cement and a discussion on efflorescence are given. A copy may be obtained by writing *Smith Chemical & Color Company*, 55 John Street, Brooklyn 1, New York.

LOOK! Only...

...opens a new road to new profits for you!

Block plant operators everywhere are turning to a *new* horizon of greater profit . . . *split block* . . . easily produced on the CUBA CRACKER in a wide variety of eye-appealing and permanent colors. If you want *your* share of this profitable market, then the new, rugged CUBA CRACKER block splitter is for you. Accommodates block slabs up to 24" wide, 8" high. Because of its simple, cam-principle design, the CUBA CRACKER is priced from $500 to $1,000 *less* than other comparable machines. Mechanically powered, it is shipped complete—ready to operate. Immediate delivery. Write for full information today!

*$1,385 with Automatic Feed...

MAIL TODAY!

FLEMING

MANUFACTURING CO.
483 FLEMING AVE.
CUBA, MO.
PHONE: CUBA 400

Gentlemen: Please rush complete information, including specifications, prices and terms on the low-priced CUBA CRACKER block splitter.
Also request information on:
☐ Automatic Double Block Machine
☐ FMC-180 Fully Automatic Concrete Block Machine
☐ FMC Stationary Mixers

Name_____
Firm_____
Address_____
City_____ Zone_____ State_____

3 Simple Reasons Why **TRANSCRETES®**

❶ FASTER CHARGING

❷ MORE THORO MIXING

Put Bigger Profits in Your Pocket!

Take features like TRANSCRETE'S time-tested outswinging hopper and floating drive — add to them NEW SHORTER OVERALL LENGTH — and it's no wonder TRANSCRETE beats 'em all a country mile for pouring more and better concrete — easier, faster — and at less cost!

There's a size TRANSCRETE (4 models, from 3½ to 7 yard mixing capacities) to do any job in the books.

New Model 700 hauls up to 8 plus yard loads — mixes any 7-yard batch. Write CONSTRUCTION MACHINERY CO., Waterloo, Iowa.

❸ QUICKER DISCHARGE

Write for NEW, FREE, Just-Off-The-Press
1956 TRANSCRETE Catalog
Construction Machinery Co., Waterloo, Iowa

THE SMITH SEPTIC TANK FORMS

FOR PRODUCTION OF 500, 600 AND 750 GALLONS

This is a one piece tank, pours and strips upright. All sections assembled with wedge bolts for easier stripping. Handled by 2" holes in wall directly on center of each side 19" down from top, this lets your hoist go down into tank and eliminates the need for a high rig.

Form includes: Pouring Pan, three section septic tank lid pans and pick up bar for handling. Inside form has tapered wedge strips in each corner that slide out easily allowing plenty of clearance for stripping.

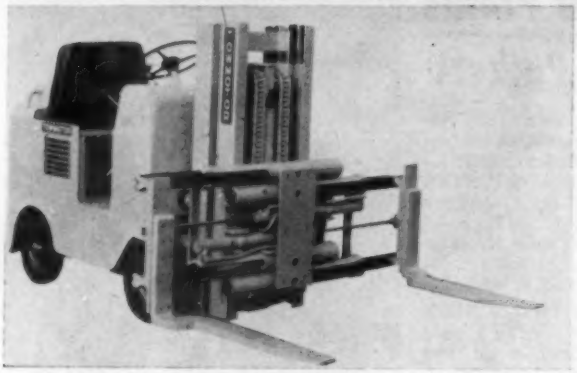
TRUCK HANDLING RIG

This is a 15 ft. all-steel body capable of hauling three 500 gal. tanks and lids with a positive chain drive, carriage and safety locking device. One man can load or unload tanks on unlevel ground with ease and safety. We use a 12-volt, 4,000 lb. Budgit Hoist that operates off the truck battery. We will design a body to fit your truck.

WRITE TODAY FOR COMPLETE DETAILS

COOK & INGLE CONCRETE PRODUCTS

305 FERNWOOD AVE., PHONE 1697, DALTON, GEORGIA

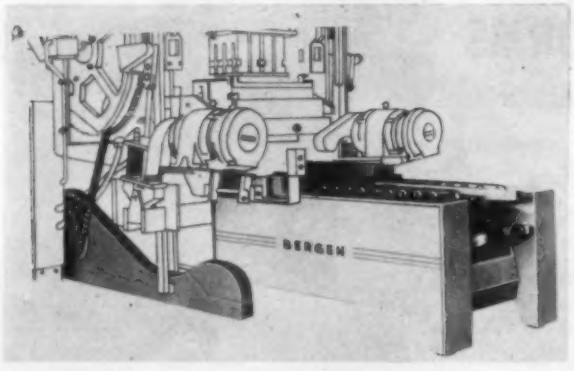


Fork Lift Truck

QUICK adaptability is said to be found in this Towmotor fork lift truck equipped with hydraulic clamp and offset fork attachment. With this accessory, the lift truck carriage can be quickly adjusted laterally to handle loads of varying size and shape, making it well suited to operations where a lift truck must be used interchangeably as a clamp truck and a fork lift truck and to applications where a variety of different widths of pallet loads are handled. Hydraulic actuation of the clamp provides for quick adjustment of the forks. For additional information write *Towmotor Corporation*, 1226 East 152nd Street, Cleveland 10, Ohio.

Turn Tables

THIS single-rack motor-driven turn table is also available in two- and three-rack models which provide push button control for improved loading and unloading efficiency. With the three-rack model, racks may be loaded with green units in one position, green block may be replaced by cured units in the second position, and the third position may be used for cubing. Manual, semi-portable and fixed-position models are also available. For additional information write *Columbia Machine*, 107 S. Grand, Vancouver, Washington.



Front Pallet Feeder

THE front pallet feeder pictured here is mounted on casters to facilitate cleaning and mold changing. It incorporates a pallet scraper and oiler, and requires no auxiliary power. Empty pallets are returned to the magazine and green units are moved from the block machine in a single motion. All movements are said to be smooth and free of shock. For additional information write *Bergen Machine & Tool Company, Inc.*, Nutley, New Jersey.

Truck Mixer

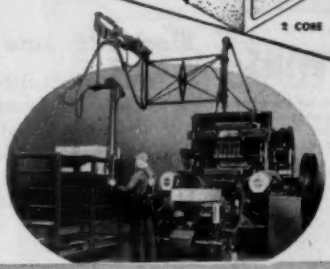
THE Rocket 65, a versatile 6½- to 7-cubic yard truck mixer, includes hydraulically operated chute control, with permanently attached "flip-flop" chute and heavy-gauge light-weight aluminum detachable extension chute, and an electric revolution counter kit. A choice of industrial engines is available. The Rocket is also available in 3-, 3½-, 4½- and 5½-cubic yard models. For additional information write *Concrete Transport Mixer Company*, 4983 Fyler Avenue, St. Louis 9, Missouri.

Concrete Filler Block for *Fire-Safe* FLOORS and ROOFS

Why make only the walls of a new building fire-safe and permanent? Why not also apply these practical advantages to the floors and roofs? Concrete Filler Block, produced on a Besser Vibrapac, make it possible for the ENTIRE structure to be fire-safe and permanent . . . at LOW COST.

ALL made on a BESSER VIBRAPAC

Concrete Filler Block are made on a Besser Vibrapac . . . the same dependable machine that produces high quality concrete load bearing block for walls. And the same Plain Pallets are used. All types of filler block can be made in various sizes to coordinate with other modular materials and for all load conditions. Block plant operators can materially add to their profits by supplying their customers with BOTH wall and floor units. For further facts, contact your nearby Besser representative, or write:

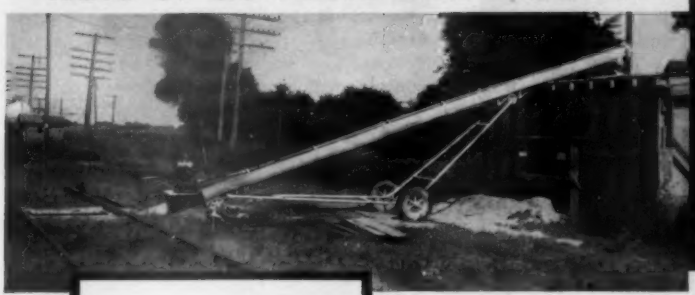


Vibrapacs are versatile. They make ALL types and sizes of block on ONE set of Plain Pallets. Fully automatic. Off-bearer removes finished block with power hoist. No manual lifting.

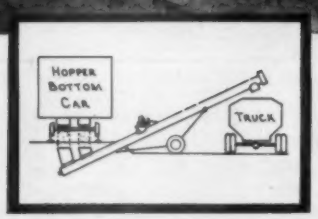
BESSER COMPANY • Complete Equipment for Concrete Block Plants • Alpena, Michigan, U. S. A.

A 8585-½-H

From Car to Truck or Storage Bins at Rate of 60 TONS PER HOUR . . .



with **BAUGHMAN**
High-Speed Model Q-51C
Portable
HOPPER CAR UNLOADER



Intake hoppers connected to car discharge hoppers with canvas connectors. NOTE: Adaptors for boxcar unloading available on special order.

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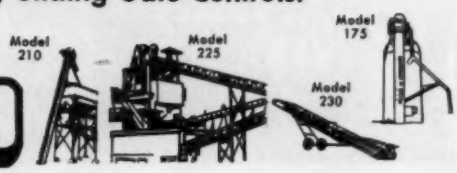

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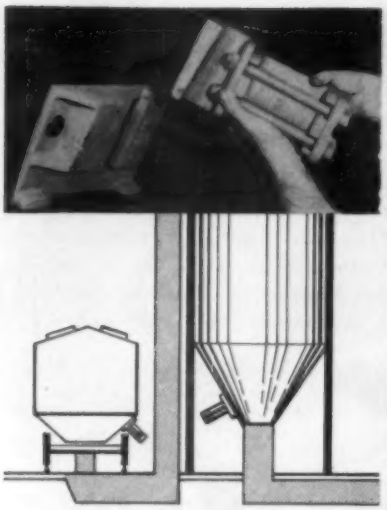

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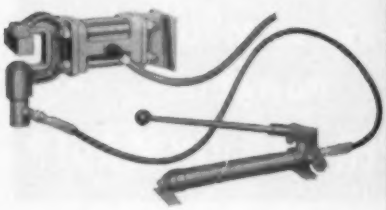
One Cleveland LSRR Vibrator will do two jobs for concrete plants. It can be used to unload cement from covered hopper cars, and then switched to trackside storage to guarantee a full flow from this bin.

The LSRR is also ideally suited to vibrating the forms of larger concrete products.



The HCLSRR is equipped with both a hydraulic C clamp and a male bracket for use on self clearing hopper cars for unloading sand and gravel.

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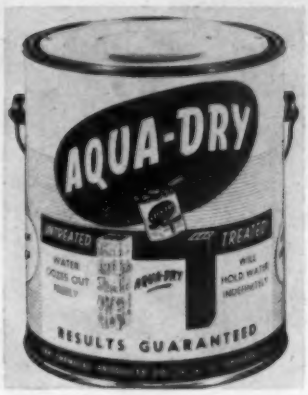
EQUIPMENT & MATERIALS



Concrete Sealer

THIS new concrete sealer, Aqua-Dry, is said to be odorless, non-peeling and non-chipping. It has an affinity for moisture only before it sets, which makes the passage of water through the previously open pores no longer possible. It can be tinted to any desired color and its enamel-like finish will not chalk or rub off. For additional information write *Rex Chemical Company*, 906 North Western Avenue, Chicago, Illinois.

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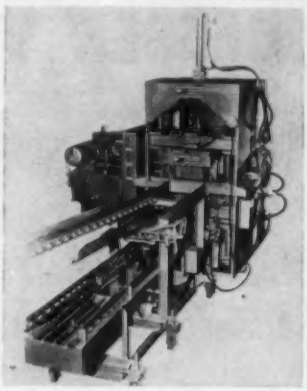
THIS FMC-10 single block machine has features formerly found only on larger machines. Outstanding among these is the front pallet feeder and ejector, the electronic height control, and the multiple cam drive. Blocks can be run extremely wet on this machine and 1800 standard 8-inch or 12-inch units can be produced daily. For additional information write *Fleming Manufacturing Company*, Cuba, Missouri.



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Cruiser Crane

PICTURED here is the Koehring Cruiser Crane, a version of the Model 205 excavator. One-man operated, the Cruiser has a 15-ton lift capacity, ½-cubic yard dipper capacity and a top travel speed of 21 miles per hour. The unit has a short turning radius of 27½ feet and its 25-foot boom can be lengthened to a maximum of 55 feet plus straight boom jibs of 15 to 30 feet. For additional information write *Koehring Company*, Sales Office, 3026 West Concordia Avenue, Milwaukee 16, Wisconsin.

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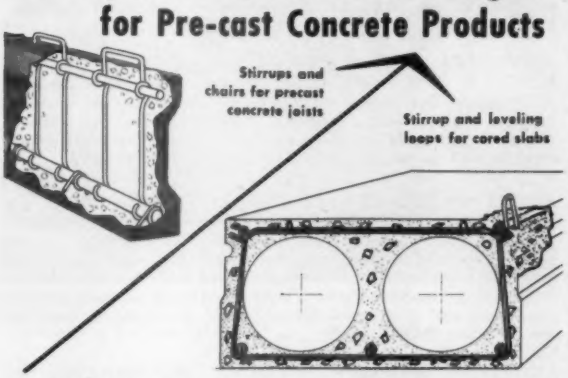

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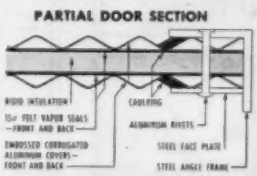

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Automatic Spring Ceiling Co. 59
Baughman Manufacturing Co., Inc. .. 57
Berg Vault Company 61
Bergen Machine & Tool Co., Inc. 6
Besser Company ..... 16, 51, 57 & Back Cover
Blaw-Knox Company 2
Bucyrus-Erie Company 47
Butler Bin Company 46
Carpenter Manufacturing Co. 61
Celotex Corporation, The 51
Chain Belt Company .. Between 24 & 25
Classified Advertising 62-63
Cleaver-Brooks Company 21
Cleveland Vibrator Company 58
Columbia Machine 13
Columbia-Southern Chemical Corp. . 15
Concrete Machy. Co., Inc. 61
Construction Machinery Company .. 55
Cook Bros. Equipment Company . 10-11
Cook & Ingle Concrete Products 55
Davis Company, Frank D. 59
Dur-O-Wal Products Company 3
Economy Forms Corp. 64
Edick Laboratories 61
Elberfeld Manufacturing Co. 49
Erickson Power Lift Trucks, Inc. 59
Fleming Manufacturing Co. 54
Jaeger Machine Company, The .. 18-19
Johnson Company, C. S. 44
Kent Machine Company 52
Lith-I-Bar Company 8
Master Builders Company ..... Inside Front Cover
Memphis Equipment Company 64
Monarch Road Machinery Company . 59
Oshkosh Motor Truck, Inc. 1
Pennsylvania Industrial Chemical Corp. 4
Portland Cement Association 48
Quinn Wire & Iron Works 64
Reichard-Coulston Company 48
Reo Motors, Inc. 32-33
Smith Company, T. L. 23
Solvay Process Division, Allied Chemicals & Dye Corp. 53
Stearns Manufacturing Company ... . Inside Back Cover
Syntron Company 53
Tamms Industries, Inc. 61
Truck Mixer Manufacturers Bureau . 29
Universal Door Carrier, Inc. 61
Westinghouse Transit Mixer Div., LeTourneau-Westinghouse Co. ... 27
Willard Concrete Machinery Sales Co. 50
Wyandotte Chemicals Corporation .. 45

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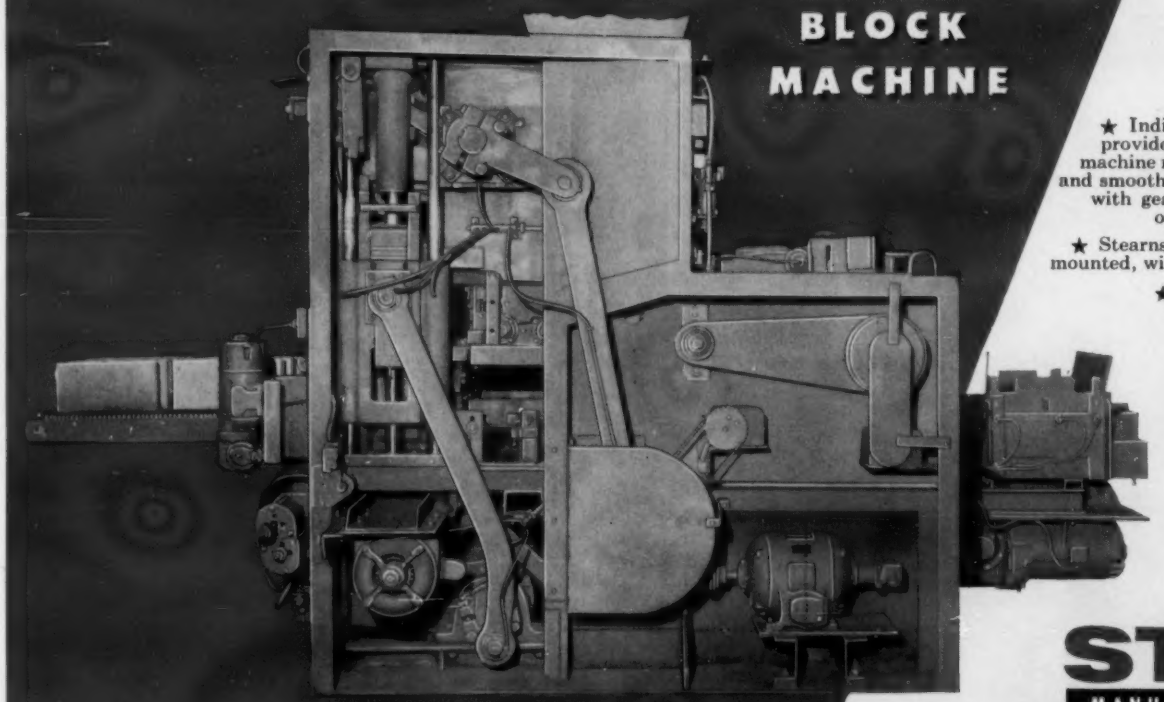

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★ Same type unidirectional vibration, regardless of mold used.

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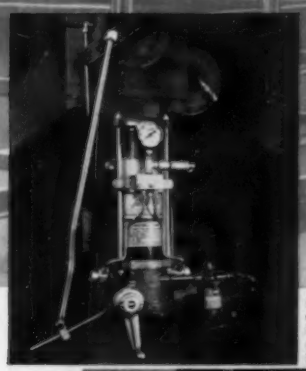
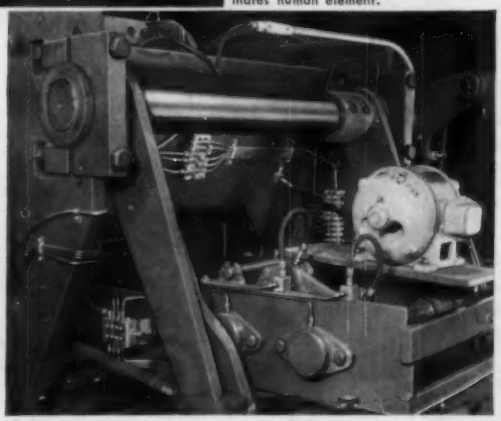
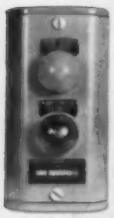


(Left) Positive-feed pump mounted on outboard bearing support of VIBRAPAC machine. Starts and stops automatically with VIBRAPAC . . . eliminates human element.



Distributor junction blocks with lubrication lines installed on VIBRAPAC. Shows master feeder assembly and ¼" tubing for automatic lubrication of bearings.



Signal light indicator at pump. Shows all bearings have been properly lubricated.

The Self-Lubricating VIBRAPAC cuts downtime...helps you produce more concrete block at less cost.

Throw away your grease gun! A Besser VIBRAPAC now lubricates itself . . . at regular intervals . . . *while it is running.*

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Of course, a VIBRAPAC has many other features that only BESSER can give you . . . more power . . . more production . . . smoother, high-speed operation . . . pin-point precision that assures finer block with greater output . . . rugged construction that provides many years of satisfactory operation.

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